15¢ A COPY

The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

Engineering News Statistics

May 30 1930 Volume 57. No. 11

TUBULAR LEGS
OF COURSE
RELATIVE CARRYING CAPACITY OF STEEL SHAPES AS COLUMNS
WELDED
SEAMLESS A.P.I. GRADE "C"
34% 47% 56% 75% 100%
BASED ON 10 FT. LENGTH WEIGHING 10.5 LB. PER FOOT
THE Moore Champion DERRICK

BITULUMIN

A PERMANENT ALUMINUM PAINT FINISH

Gasoline Retorts Associated Oil Co. Avon Refinery, California. 2 coats BITULUMIN over 250 Iron Primer.

SUN-PROOFED AND MOISTURE-PROOFED

ORDINARY paint Vehicles (liquids) were never meant to be used as Vehicles for Aluminum, with the result that when Aluminum Powder is used in such Vehicles the flakes become "binder-logged" and cannot float to the surface and form the overlapping surface necessary to a perfect protective finish.

In Bitulumin, the specially developed Vehicle is of the exact consistency to permit ready leafing of the Aluminum flakes. The tiny Aluminum particles in Bitulumin float to the top and form an overlapping protective armor. Under the microscope this surface looks like a perfectly shingled roof. This metal armor of layer on layer of Aluminum flakes deflects all but a small percentage of the destructive rays of the sun and so keeps the contents of tanks cooled against evaporation. Besides, Bitulumin prevents corrosion; it lasts longer; it covers more surface per gallon; it is more brilliant and is sun, weather, water, acid and fume proof.

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THOROUGHBRED

Thoroughbred means "bred from the best." Few winners are bred any other way.

It is much the same in pumps. Strong, efficient, durable pumps are usually the result of the "stock" from which they come—and the skill with which such stock is handled.

To be sure of good stock, we operate our own foundry. To be sure of careful handling we insist that every GASO workman go through an exacting course of training. That we are running a winning race is indicated by the frequent additions we are making to our manufacturing facilities.

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TULSA - OKLAHOMA

A *Winner Right From the Start*

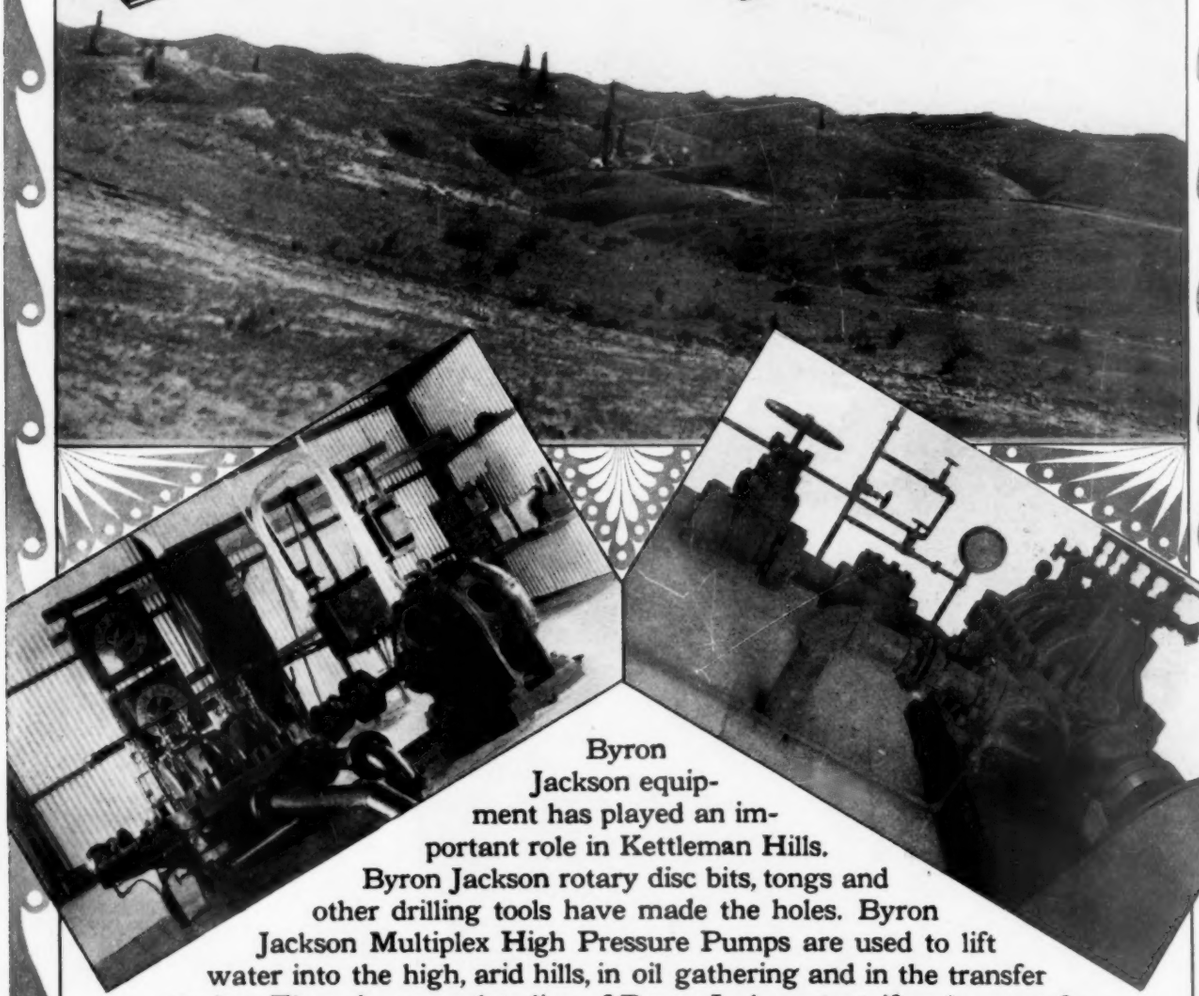
A few hours after the first GASO Portable Pumping Unit Fig. 2010-W was shown (at the 1925 International Petroleum Exposition) an enterprising company had bought it. Within a few months, demand for this unit made necessary additions to our plant. Its use is now world-wide.

There is a Gaso Pump for every oil industry requirement of capacity, pressure, type of drive, etc. And every member of the Gaso line is a thoroughbred.

Send your requirements for complete information.

GASO PUMPS
for every oil industry need

KETTLEMAN HILLS



Byron Jackson equipment has played an important role in Kettleman Hills. Byron Jackson rotary disc bits, tongs and other drilling tools have made the holes. Byron Jackson Multiplex High Pressure Pumps are used to lift water into the high, arid hills, in oil gathering and in the transfer service. There is a complete line of Byron Jackson centrifugal pumps for every use in the oil industry. Write for bulletin and Pipe Line Friction Chart.

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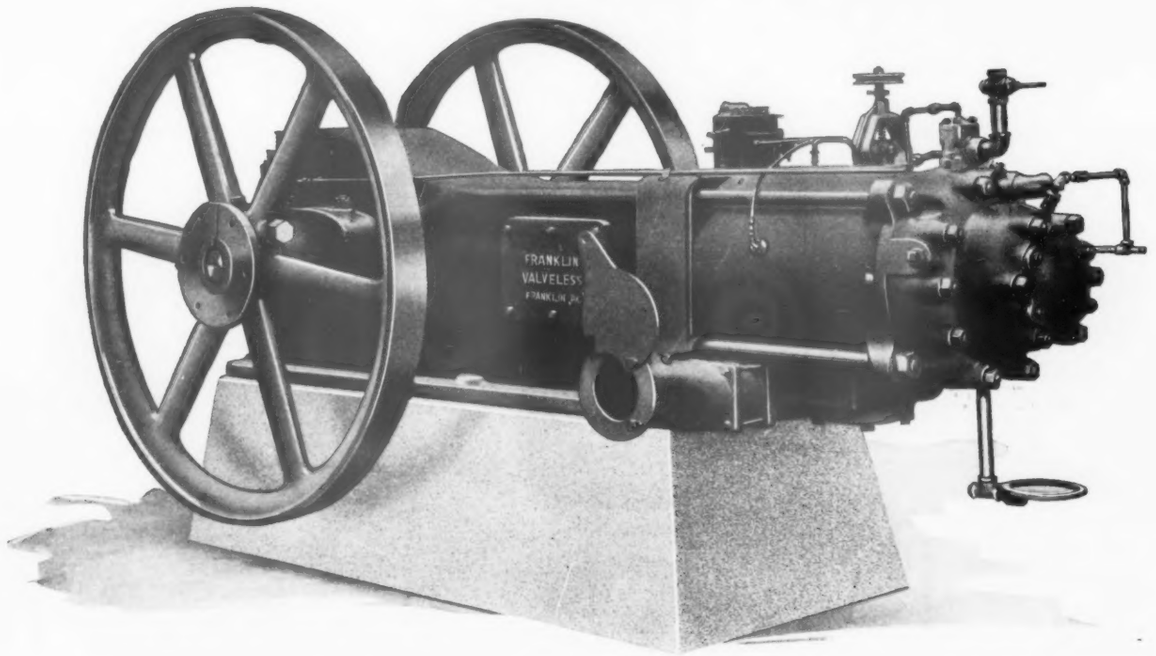

IS YOUR GAS SUPPLY

going **In many fields there is evidence that the supply is falling off.**

going **In some fields the supply is rapidly being exhausted.**

gone **In some fields the supply is entirely exhausted.**

Then Remember: the Franklin Valveless Oil Drilling Engine Is a Great Pumping Engine

All cable tool drilling is faster and cheaper with the Franklin Valveless O. F. Oil Engine — and, if gas is doubtful, the same engine is the best prime mover available: low operating costs, high efficiency and long life.

Franklin Valveless Engine Company

Franklin, Pennsylvania

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Ask Your Supply House, or Write Us.

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Foundry & Machine Works

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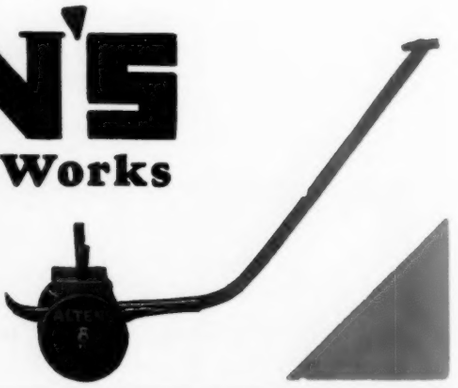
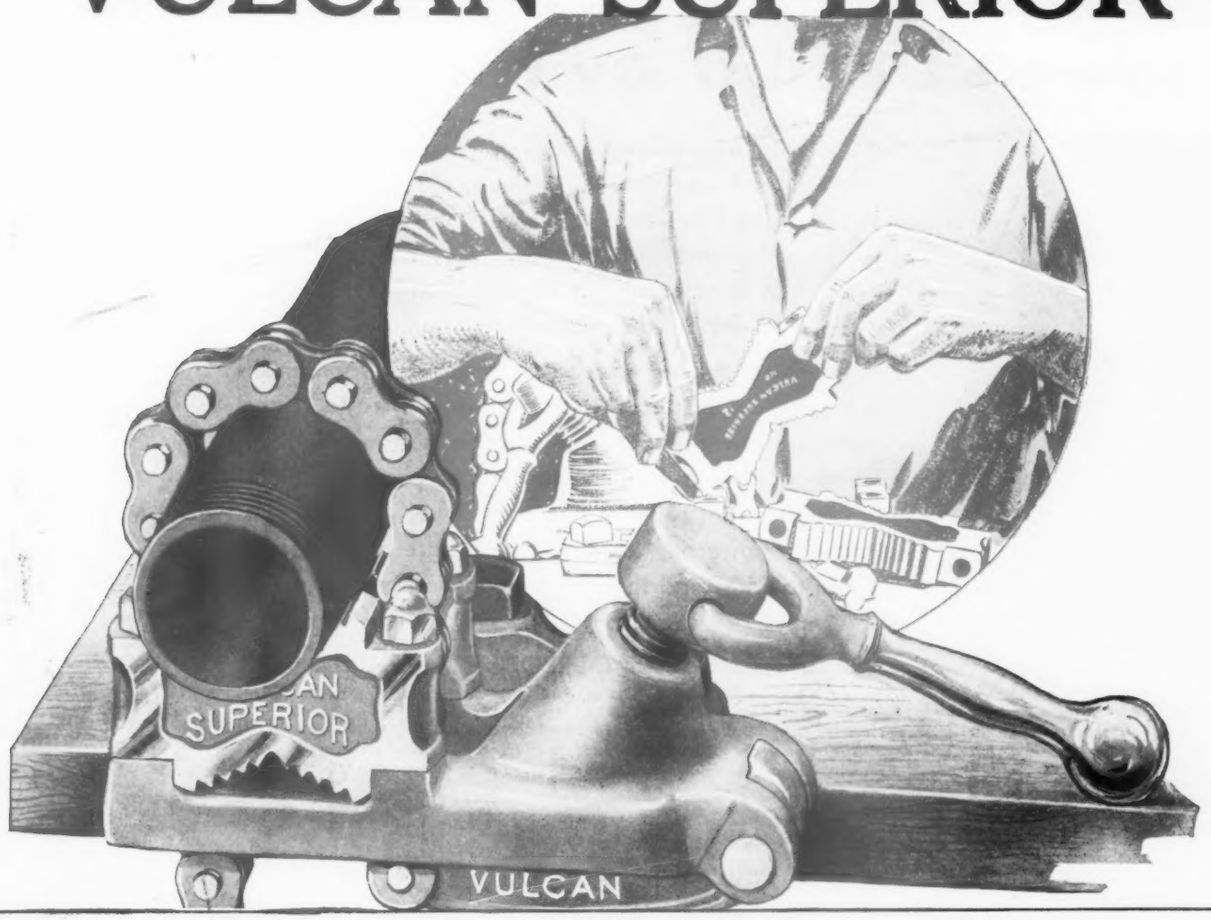


"VULCAN SUPERIOR"



The VISE *with* DOUBLE LIFE

WILLIAMS' "Vulcan Superior" is built for hard service. It's the ONLY Chain Pipe Vise having double life. When the teeth first in use grow dull, simply turn the jaws over. Then, in effect, you have a new vise.

And the handle ON TOP assures easy adjustment. Convenient—efficient—rapid.

Every part is made of tough wrought steel—not a casting on the whole job. It's a great vise. You need it in your work. Two sizes for 1/8 to 4 1/2-inch pipe. Get one today.

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4 Exclusive Features

1. "Overhead" adjustment. The handle is on top—easy to operate.
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WILLIAMS
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SUPERIOR
CHAIN PIPE VISE

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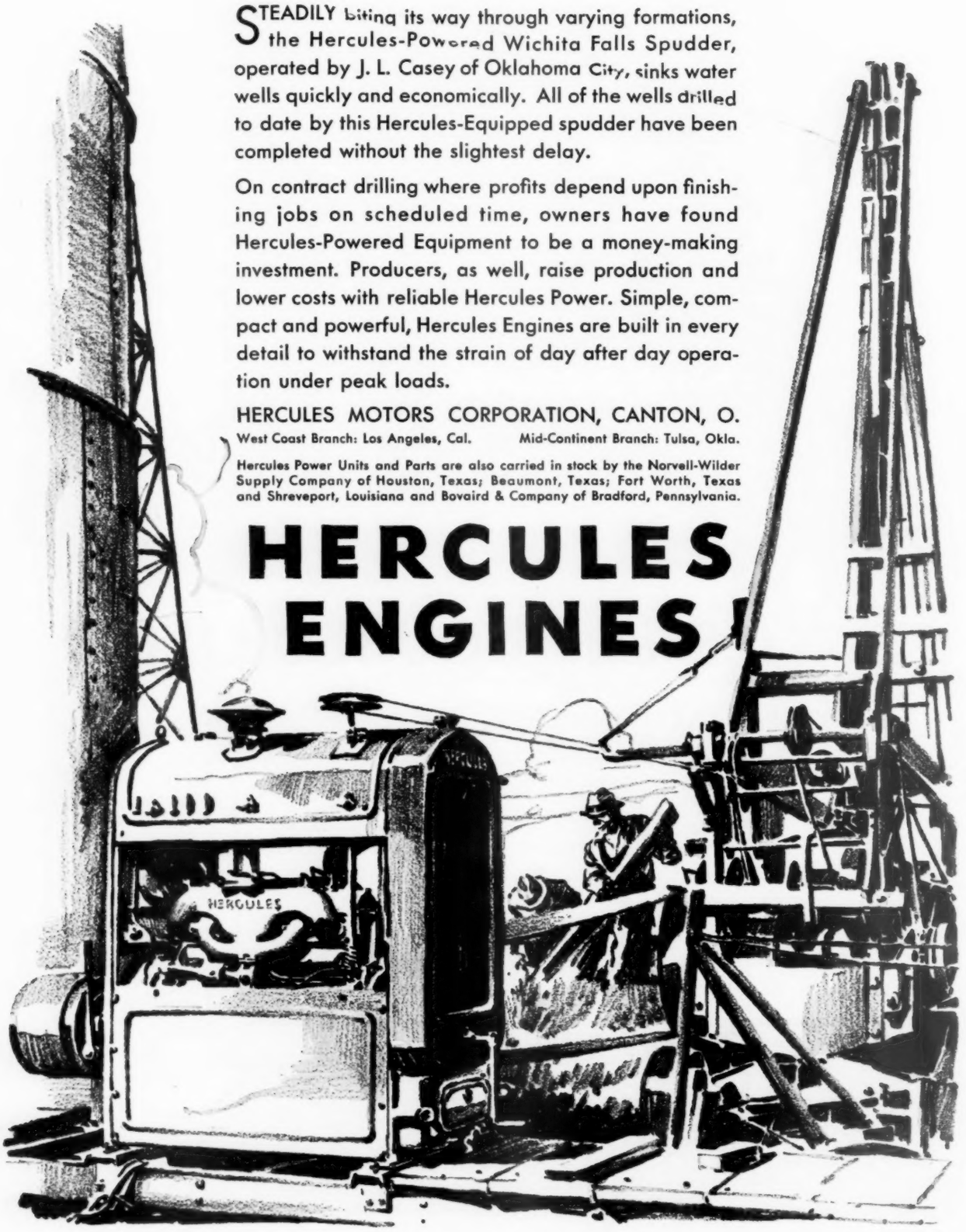
HERCULES ENGINES!



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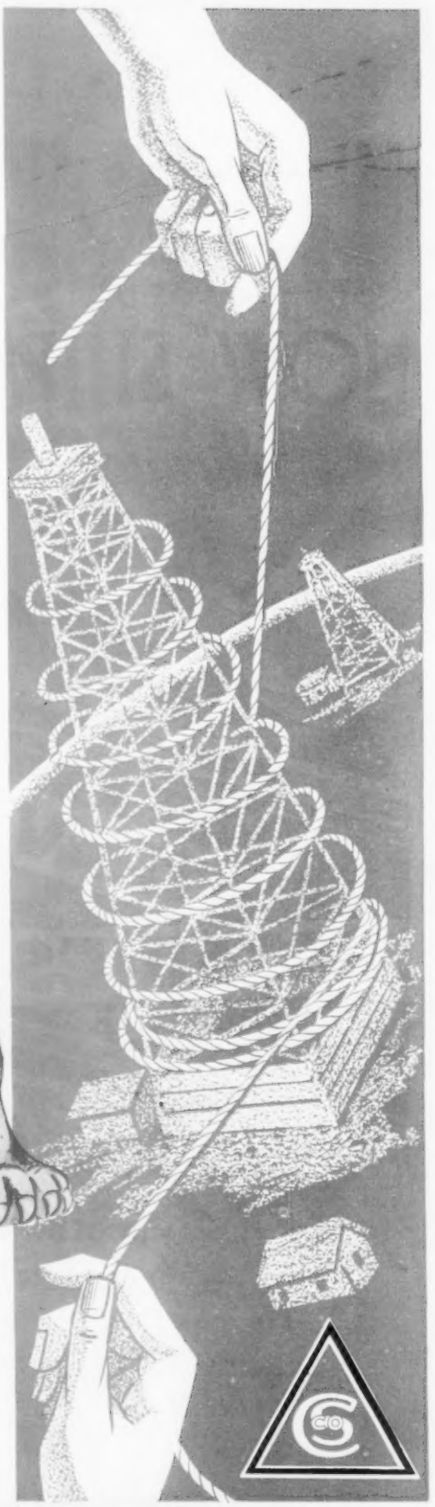
YOU GET LOWER COST PER FOOT OF DRILLING WITH

AMERICAN WIRE LINES

(ON THE YELLOW REELS)



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KELLY STEMS
CROWN BLOCKS
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ROTARY PUMPS
ROTARY TABLES

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THERE are few wells in operation today that could not be made to run smoother by the addition of Lucey Built Equipment. Before you start *your* next job, be sure to stop at the nearest Bridgeport Store and compare these LUCEY PRODUCTS with any similar equipment obtainable.

CROWN BLOCKS—From 2- to 8-Sheave sizes Timken Bearing Equipped. Alemite Lubrication; Cast Iron, Cast Steel or Manganese Steel Sheave Wheels.

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TWIN CYLINDER DRILLING ENGINES
"OLD RELIABLE" STEAM PUMPS
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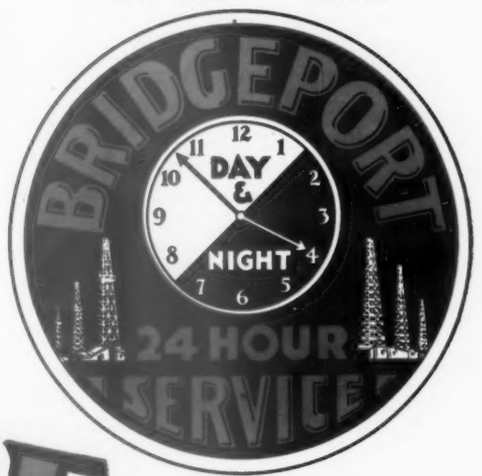
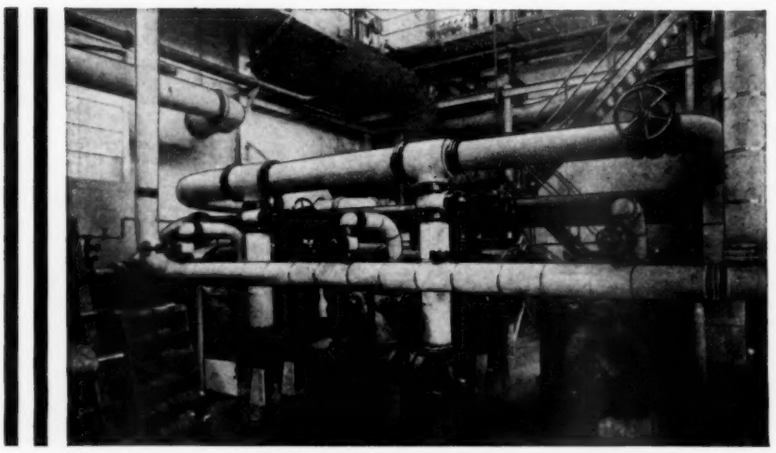


MACHINE CO.

and Main Plant
KANSAS

BRANCHES THROUGHOUT THE OIL FIELDS

Application of the ATWOOD *"Interlock" Welded Neck to Practical Piping Installations*



"*STRONGER* than the pipe itself" . . . as tests recently conducted by the Pittsburgh Testing Laboratories prove . . . the ATWOOD Welded "Interlock" Neck combines the factors of performance . . . and a wide margin of safety . . . with that of economy. Developed to meet the extreme conditions of modern high pressure lines, its principle has been applied successfully to welded headers for every service condition . . . power plant, compressor station, refinery, river crossing, steamboat, and industrial piping generally where pressure and temperature are involved. Among the many hundreds of installations during twenty years . . . *there has not been a single failure.*

The "Interlock" Neck has been incorporated in many of the largest piping installations . . . in all parts of the world . . . not only fabricated, but also designed and installed. We shall be pleased to submit an estimate on your next piping job.

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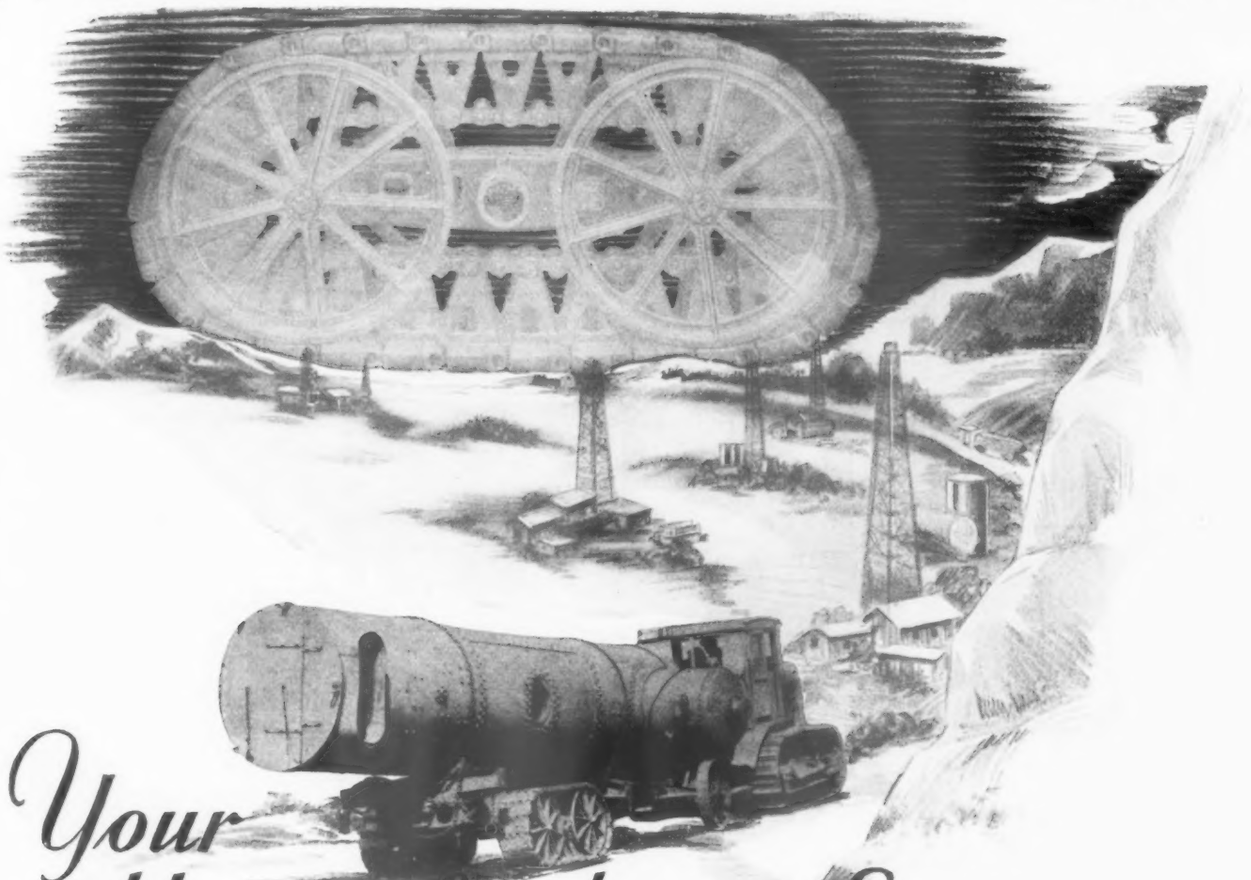
Atlanta, Ga.	Moore-Broach Eng. Co.

not a single failure in 20 years

ATHEYS BRIDGE THE SOFT SPOTS



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Atheys are *built* to handle heavy loads. That's their job. Other equipment can handle light loads over good roads, but Atheys are absolute necessities for hauling *heavy* loads over good or bad roads. Atheys are non-miring — they travel easily over soft uneven ground. Their light running qualities allow them to carry twice the load with half the tractive Power. Their 10-15-20 ton capacities increased to 20-30-40 tons or more by operating Atheys in train — give them tremendous capacities to handle the heaviest load regardless of road conditions.

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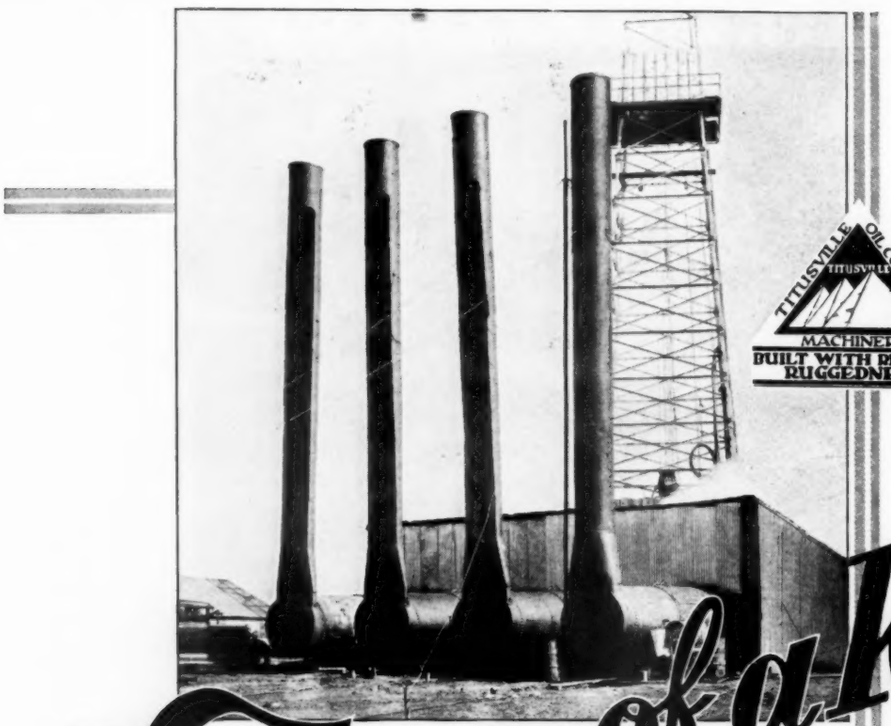
ATHEY TRUSS WHEEL WAGON
IT BRIDGES THE SOFT SPOTS



"Four of a Kind"

—And they all look like "Aces" to the Southerland Drilling Company of Oklahoma City.

All users agree that *Titusville Boilers* combine right design, workmanship and lasting qualities which spell economy in the long run.

If that's what you're after—pick these winners.

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Oil Field Equipment

Twin Cylinder Steam Engines
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TICO 2-cycle Gas Engines
TICO 4-cycle Gas Engines
Rotary Drilling Equipment
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TIW-60 GAS ENGINES ~ PUMPS ~ BOILERS ~ DRILLING RIGS ~ STEAM ENGINES

"Hello,— that you, Bill?"

"THAT breeze was sure stiff last night. Took two for us . . . How's that? Yeah, those two old wood derricks on the Jones . . . That's the last two woods, glad to say. Send me a couple of *steel* derricks . . . Sure, *Parkersburg*. The boys all say they go together easiest. They'll give us quick service, too . . . Okey! We'll have 'em up before you get here."

And Bill can be sure of that! For erection in one day is no idle boast. It is common occurrence throughout the world wherever Parkersburg Steel Derricks are set up.

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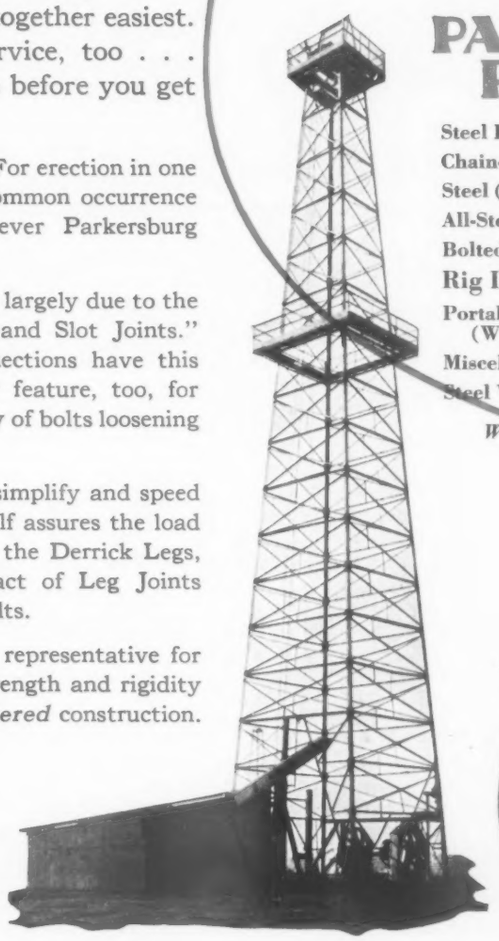
Interchangeable legs further simplify and speed erection. And the design itself assures the load being carried *straight* down the Derrick Legs, while the butt-to-butt contact of Leg Joints eliminates shear strains on Bolts.

Ask the nearest Parkersburg representative for more facts on the unusual strength and rigidity given by Parkersburg *engineered* construction.



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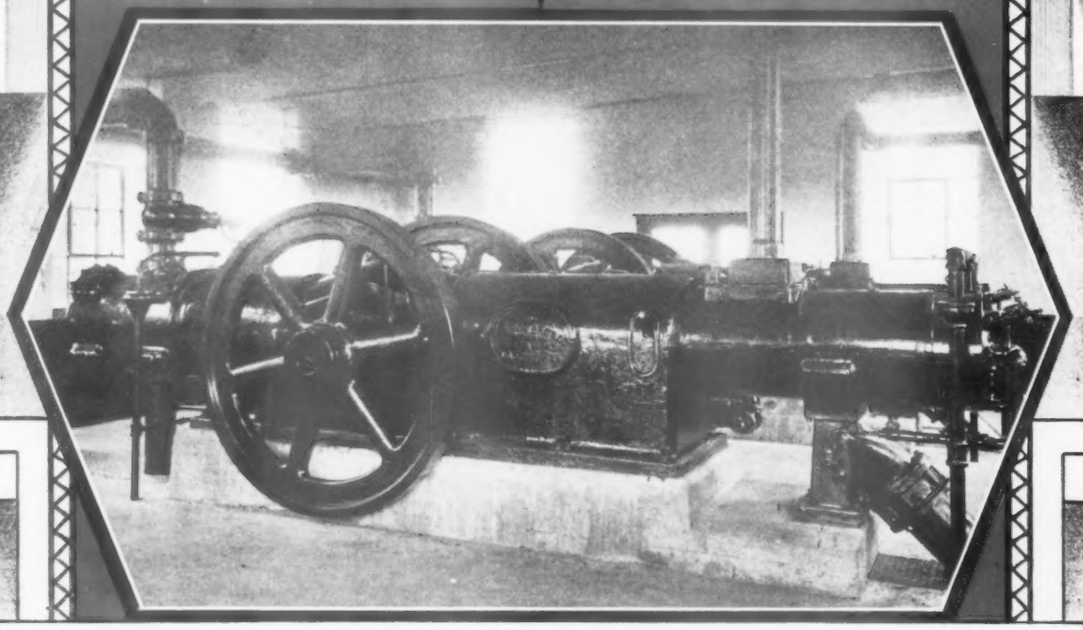
THE NATIONAL SUPPLY COMPANIES



8-Year-Olds Modernized by installation of CLARK patented Fuel Injector....

Shown above are CLARK 2-cycle compressors first used about eight years ago in a gasoline plant at Tonkawa, Okla., recently modernized by the installation of Clark Fuel Injectors, and now in service at the Baltimore refinery of the Continental Oil Co.

New or old, CLARK Engines are durable and dependable. The perfected CLARK "Super 2s" are the last word in efficiency and economy.

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CLARK

EMSCO PROTECTORS DO NOT RESTRICT CIRCULATION

While the primary purpose of a drillpipe protector is protection for the pipe, free circulation of mud and fluid in the hole is eminently important.

Emsco *Free-Circulation* Protectors provide for this unobstructed circulation in a very simple manner. Reference to the illustration discloses the large area of circulation space between the tough rubber bumpers and the casing. The area of this clear space, by actual measure, is greater than the total volume of fluid forced through the rotary hose.

Emsco *Free-Circulation* Protectors will not cause back-pressure and consequent mudding-up of potential oil sands when running in, and will not pull the fluid out of the hole when coming out with a string of drill pipe.

Emsco Free-Circulation Protectors are an engineering achievement in pipe protection. Write for illustrated folder giving detailed information.

E. M. SMITH COMPANY

637 So. Clarence St., Los Angeles, California

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SPENCER W. ROBINSON, EDITOR

TABLE OF CONTENTS

Special Features

Oklahoma Storage Situation Warns Against Over Production ... 21
By H. J. Struth

Engineers Consider Economic Ills at Tulsa Meeting ... 22
By S. W. Robinson

Engineers Look Forward on Oklahoma City Problems ... 23
By Floyd Swindell

Wells Point to Deep Production on All Sides of Barbers Hill ... 25
By Jack Logan

Well Drilling Chart Gives Daily Record With Costs ... 28
By Wm. H. McGrew

Economic Lease Development Involves Close Check on Costs ... 30
By Grady Triplett

Weighing Wells ... 31
By L. S. Thompson

Regular Departments

Advertisers' Index ... 114

Markets-Production-Crude Prices ... 39

United States Production Estimates ... 44

Crude Oil Price Quotations ... 45

Personal Mention—Men You Know ... 48

Completions for Past Week in All U. S. Fields ... 68

Permits Granted for New Wells ... 72

Wildcat Drilling Reports from All Important Areas ... 78

News from California Fields ... 65

North and West Texas Field Notes ... 49

Gulf Coast Field Development Notes ... 52

Oklahoma-Kansas Field Notes ... 57

Louisiana-Arkansas Development Notes ... 61

New Equipment, Catalogs, Bulletins, Books ... 103

Notes About Manufacturers ... 108

Squeaks from the Bull Wheel ... 112

Oklahoma Quarterly Production Report ... 94

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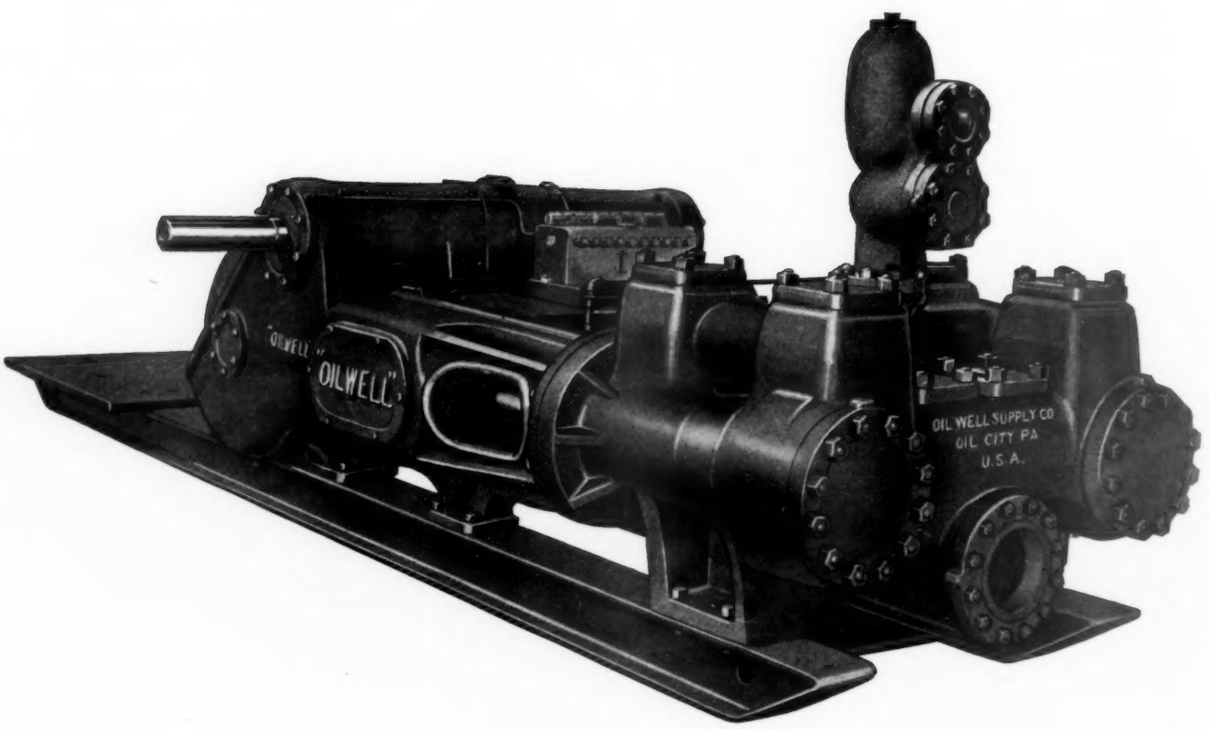

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OIL WELL SUPPLY CO.

JUN -2 1930

Volume 57, No. 11 *May 30, 1930*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

Oklahoma Storage Situation Warns Against Over-Production

By H. J. STRUTH
Staff Economist

CONDITIONS in Oklahoma are not as satisfactory as many believe. A late check of the storage situation shows that crude is being added to stocks at the rate of about 30,000 to 33,000 barrels a day. At the same time, a similar check of storage conditions in Texas reveals that the situation there is not as bad as earlier studies of market conditions intimated. Thus, it is logically concluded that Texas oil has to some degree supplanted Oklahoma oil, particularly in the competitive markets of the east coast. As a result of this course of events, it has been necessary to revise former estimates of demand for the respective states, revealing the need for curtailment of production in Oklahoma to the extent of 32,781 barrels daily and a corresponding correction for Texas involving the need for curtailment of 58,649 barrels daily.

Mid-Continent crude oil is under pressure from three angles. The lowered prices for Pennsylvania crude and the conditions prescribed by the crude market in California are types of pressure which place an unfavorable prospect ahead of the Mid-Continent market structure. The other angle is the turn-about of marketing conditions in Oklahoma that have exerted an unfavorable aspect upon the storage situation. The fact that Oklahoma refiners appear to be bent upon holding back refinery output until seasonal demands prescribe the necessity for increasing still runs, combined with the fact that marketing connections in the East have undergone a change, has created a somewhat altered picture in the status of Mid-Continent producing states. Earlier in the year it was believed that Oklahoma crude would, during the second quarter of this year, be in greater demand than actual results have thus far indicated. Now, it is apparent that actual requirements for Oklahoma crude are about 50,000 barrels a day less than the rate of demand anticipated, while Texas oil has gradually increased in demand to the extent of the change recorded by Oklahoma.

In view of the conditions outlined, it is evident that the plea of Oklahoma City operators for increased production allowances should not be granted by the proration committee. In fact, some steps should be taken immediately to cut back production of the Oklahome City pool to the extent of increases in new production during recent weeks. Unless this is done, there is danger of market demoralization before many more weeks of over-production have passed. Under existing circumstances it is imperative for Oklahoma operators to continue curtailment efforts, at least until seasonal requirements of the refineries justify a higher rate of production.

While conditions in Texas reveal some improvement by the change prescribed in the Oklahoma situation, it is also apparent that the demand for Texas oil is somewhat inflated. Recent studies of refinery operations point to the fact that still runs in Texas and on the East Coast are decidedly excessive. Since Texas oil figures so prominently in this situation there is every reason to believe that the current rate of demand in this state may undergo a serious downward revision in the near future, particularly if refinery operations are curtailed. Unfavorable weather conditions over a wide area during recent weeks has had an unfavorable effect upon the gasoline market and may intensify the need for retarding still runs of crude. As a matter of fact, if refineries of the East Coast as well as those in Texas gauged operations in accordance with the demand prescribed by gasoline, one may assume that over-production in Texas would be more fully realized. As it is, the inflated demand for crude seems to be in approximate balance with current production in Texas. Revised demand figures show that Texas is now producing only about 15,000 barrels a day in excess of actual pipe line deliveries. However, in order to correct the unfavorable balance of the first quarter of this year, it is apparent that the daily rate of production there should not exceed 784,000 barrels, or about 59,000 barrels a day less than is actually being produced.

Following is a corrected report of the crude situation as indicated by a late check of the storage situation in the Mid-Continent area:

	Necessary Daily Average	Limit Described to Correct Previous Excesses	Actual Daily Average May 17 1930	Excess
Arkansas	69,879	69,879	57,600	12,279
California	669,791	602,566	632,100	29,534
Kansas	116,044	111,552	131,400	19,848
Louisiana	58,011	50,503	62,900	12,397
Oklahoma	630,150	627,369	660,150	32,781
Texas	825,508	783,701	842,350	58,649
Balance of U. S.	235,945	235,945	221,400	14,545
Total	2,605,328	2,481,505	2,607,900	126,395

Arkansas, Rocky Mountain and central western states seem to be the only areas that are not really over-producing at this time. Market action in Pennsylvania has emphasized the over-production situation there. California shows an excess output of about 30,000 barrels a day, while the intention of some operators in the Santa Fe Springs field to boost production further has resulted in a drastic revision of posted prices there.

Engineers Consider Economic Ills At Tulsa Meeting

Reid W. Bond elected chairman of the Mid-Continent District for the coming year

By SPENCER ROBINSON

TULSA.—The economic ills of the industry shared honors equally with the technical and mechanical problems of drilling and producing oil at the two-day meeting of the Mid-Continent division of the Production Division of the American Petroleum Institute, here last Friday and Saturday.

Wm. N. Davis of Bartlesville, chairman of the production division of the American Petroleum Institute, and one of the earliest proponents of unit operation, addressed the gathering on this subject while E. B. Reeser, president of the American Petroleum Institute and head of Barnsdall Oil Company, stressed the need for rigid curtailment by voluntary co-operation at this time.

Reid W. Bond, petroleum engineer for Shell Petroleum Corporation at Tulsa, will be chairman of the Mid-Continent Division for the coming year. He was elected at the business session held Friday and succeeds J. R. McWilliams, chief engineer of Skelly Oil Company, who also holds the position of national vice-chairman of the production division.

R. R. Hawkins, of The Texas Company, Tulsa, is the new vice-chairman of the Mid-Continent division and Ernest L. Bell of Deep Rock Oil Corporation is the new secretary. Mr. Bell has been prominent in the organization and chapter work of the Drumright chapter, model field chapter of the division at Drumright.

The new advisory committee composed of 26 operators and executives in the Mid-Continent territory will be found elsewhere in this issue.

Need for Curtailment

Mr. Reeser, who opened the meeting with his plea for voluntary co-operation, also pointed out the influence which production men, engineers and field personnel can exert upon executives in helping to determine future policies. He urged that both groups consider more seriously their responsibility in this connection.

Following Mr. Reeser's discussion of the need for rigid curtailment, C. V. Millikan, engineer for Amerada Petroleum Corporation, said that the operating men were not only the doctors who must revive the industry but that they were also the patients. Unit operation he said, with a further aim toward the greatest ultimate recovery of oil at the least cost, involves the mechanical problems, determination of the method of application of equipment and putting theory into practice.

C. E. Beecher, engineer for the Empire Companies at Bartlesville stressed the point that the industry had been interested in getting the most oil possible in the shortest length of time under the competitive method in vogue and that little can be done to reduce costs until such competitive methods were abolished. Economies have been made, but these have been lost in the general picture. The engineers, he said are making efforts to perfect the practical application of unit development.

The unit operation of oil pools as the "one sane and sound" program for the correction of the industry's economic ills was offered in the address by Wm. N. Davis.

"Competitive drilling drainage is the beginning of the industry's economic ills and any fully effective and permanent remedy must start with its elimination," he stated. "This can be accomplished only by common ownership and development of the common reservoir as contemplated in unit operation."

Citing the Oklahoma City field as an example, Mr. Davis pointed out that if development in this field, including surface equipment costs approximately $150,000 per well, the 215 wells completed represent an investment of $32,250,000 and 250 wells now drilling will cost an additional $37,500,000. "If the potential production of the 215 completed wells is 1,200,000 barrels a day, then 20 average Oklahoma City wells, completed at a cost of $3,000,000 could produce the 115,000 barrels daily production which is all that the market has been able to absorb," Mr. Davis declared. He continued by showing that if the Oklahoma City field could have been fully unitized, development costing $3,000,000 would have produced as much income to date as the $32,250,000 now in completed wells, to say nothing of the $37,500,000 in the course of being spent.

Industry Faces Over-Supply

In summarizing the situation at present, Mr. Davis stated that the oil industry in the United States and throughout the world is confronted for an indefinite period with a potential over-supply of its raw material. Additional storage above ground is, therefore, economically unsound, and, if the industry is to prosper, oil must not be produced in excess of current legitimate demand.

(Continued on page 64)

NEW OFFICERS

Tulsa.—The following officers and members of the advisory committee were elected here last Friday to serve the Mid-Continent district for the coming year:

Officers

Reid W. Bond, Shell Petroleum Corporation, chairman.

R. R. Hawkins, The Texas Company, vice-chairman.

Ernest L. Bell, Deep Rock Oil Corporation, secretary.

Advisory Committee

H. M. Stalcup, Skelly Oil Company, chairman; C. W. Baker, T. B. Slick, Inc.; R. A. Bonnell, Tidal Oil Company, J. J. Conry, Carter Oil Company; C. P. Dimit, Independent Oil and Gas Company; George A. Dye, H. F. Wilcox Oil and Gas Company; E. R. Filley, The Texas Company; J. E. Holm, Atlantic Oil Producing Company; R. K. Huey, Deep Rock Oil Corporation; R. F. McArthur, Barnsdall Oil Company; W. A. Martin, Sinclair Oil and Gas Company; George O. Moody, Mid-Continent Petroleum Corporation; F. O. Prior, Dixie Oil Company; W. G. Ricketts, Amerada Petroleum Corporation; Ralph Roark, Shell Petroleum Corporation; S. G. Sanderson, Gypsy Oil Company; H. F. Schoonover, Pure Oil Company; M. E. Wagner, Mid-Kansas Oil and Gas Company, and J. A. Wolfe, Prairie Oil and Gas Company, all of Tulsa; A. W. Ambrose, Empire Companies; J. S. Dewar, Phillips Petroleum Company, and A. V. Hoenig, Indian Territory Illuminating Oil Company, all of Bartlesville; L. C. Hawkins, Magnolia Petroleum Company and G. W. Porter, Wirt Franklin Petroleum Corporation, both of Oklahoma City; E. J. Nickols, Continental Oil Company, Ponca City.

Engineers Look Forward on Oklahoma City Problems

Probability that Institute activity will embrace production research

By FLOYD SWINDELL
Staff Representative

TULSA.—The nature of papers presented at the Spring meeting of the Mid-Continent district of the American Petroleum Institute Division of Production clearly shows that operators are devoting a lot of thought to the problems which will arise when the Oklahoma City pool has to be pumped. Increasing amounts of water production accompanied by decreasing pressures, indicate that a solution for these problems must be worked out in the near future.

Of the six papers read during the meeting, five are directly related to the immediate future of Oklahoma City and the sixth will have a direct bearing on the problems during the latter stages of production in that field. "Recent Developments in Deep Well Pumping," a group paper compiled by R. R. Hawkins, Division Engineer for Carter Oil Company, was based upon information collected by D. L. Trax, Gypsy Oil Company, E. A. Carr, Pure Oil Company, L. S. Thompson, Carter Oil Company, and E. H. Griswold, Continental Oil Company. Six different types of pumps were discussed.

Submerged Electric Pump

The machine is divided into three main parts: The motor, the protector, and the centrifugal pump. Specifications for these parts were shown along with a description of detail and arrangement. At the present time 12 of these units are in operation in Oklahoma, Kansas, and Texas. Approximately 3850 barrels per day are being pumped from a maximum depth of 2860 feet. Many of the early mechanical difficulties have been eliminated and in the recent months, practically all of the shut-down time has resulted from failure of the transmission cable, principally at its lower end. It was stated by one of the engineers, that his company is successfully using this method in pumping Kansas properties. He further stated that they had been able to handle gassy wells and had experienced no cutting. However, it was pointed out that difficulties are encountered where wells are allowed to pump off and that in such instances the pump capacity should be reduced slightly below the capacity of the well. The method seems to have good possibilities and with the continued study of its uses may do much in the solution of lifting problems.

TULSA.—Petroleum production research, as an institute activity, may come into being as a result of a meeting held here last Friday evening in connection with the annual spring meeting of the Mid-Continent district of the American Petroleum Institute, Division of Production.

A committee composed of H. H. Hill, E. DeGolyer and K. C. Heald, chairman, representing the National Research Council of the Institute, met with the group for the purpose of determining the need for such a program and if possible those subjects that should be considered.

Most of the subjects suggested dealt with practical problems and it was the opinion of those participating in the discussion that should such a program be adopted by the Institute that some man be secured to direct such research as a member of the Institute staff.

The advisory committee will report back to the National Research Council which will in turn report to the directors of the Institute and some action will probably be taken at the annual meeting of the Institute in Chicago next November.

The National Research Council was established to direct the expenditure of the $500,000 fund donated by John D. Rockefeller and the Universal Oil Products Company for fundamental petroleum research.

One obstacle in the way of the movement for a particular study of production problems may lie in the fact that these funds are for use in fundamental research whereas most of the problems suggested at the preliminary meeting here dealt with practical field operation.

Hydraulic Pump

The unit consists of three major parts: The pump proper that is placed at the bottom of the well, two strings of tubing, and a power jack which is installed on the derrick floor. Pressure applied to the inner string of pipe forces the piston down in the pump proper and by reversing the action and applying pressure to the outside string, forces the piston up, completing the full stroke of the traveling valve. The fluid handled by the working barrel below the pump unit discharges into the outer string. The fluid handled by the working barrel is then drawn off at the top of the hole by means of a check-valve arrangement. Fluid which is placed in the inner string remains there at all times and is used as a medium for transmitting the pressure from the pumping jack on the derrick floor to the power piston at the bottom of the well. One decided advantage that this method has is an unlimited length of stroke, the only governing factor being the number of pressure reversals per minute of the two fluid columns. Very little experimental work has been done with this pump but the possibilities would seem to be sufficient to make further testing desirable.

Turbine Driven Centrifugal Pump

The pump consists of a high speed gas driven turbine connected to a centrifugal pump. The gas, after actuating the turbine, is discharged in to the tubing resulting in a straight gas lift from this point on. The turbine pump is run on the regular string tubing with a packer set below the openings through which the high pressure gas passes from the casing to the tubing. The gas, in passing through these openings, strikes the turbine at an angle and causes it to rotate in the same manner as a steam turbine. The turbine is directly connected to an impeller which picks up the oil and discharges it into the tubing where it is carried to the surface by the discharged gas. The experimental data available at this time are not conclusive but the method

may be found to have decided advantages in producing large capacity, low rock pressure wells, where the fluid level is low and gas lift is to be used.

The equipment used in this method does not differ greatly from that used in ordinary plunger pumping and gas lifting. The object of the experimental work has been to determine how much fluid can be raised and to what extent the load on the rods can be lightened. Fundamentally, the principle is that of installing a plunger pump in three-inch tubing which is perforated at a point 1000 to 2000 feet above the working barrel, to admit gas for flowing. The conclusions as to its success are at variance and the method seems to require a vast amount of research before it can be of practical use to the industry.

Gas Driven Reciprocating Pump

The primary object of this method is the actuating of a regular working barrel in much the same manner as with a string of rods, but instead of rods, to use a reciprocating engine whose action is similar to that of an ordinary steam engine. The engine is placed at the bottom of the hole and two strings of tubing or one string and a packer are used in conducting the gas down to it. The gas discharged from the engine passes into the tubing and carries the oil to the surface by the gas lift method. In one installation, this pump was placed in a 5000-foot gas lift well, which had declined to 500 barrels a day, using more than 600,000 cubic feet of input gas. Operated intermittently, gas pressure being on about one minute and off about four, the pump lifted over 800 barrels with an average daily input of 400,000 cubic feet of gas at pressures varying from 680 to 730 pounds. This method has several advantages, namely; elimination of one string of tubing, reduction of injected gas per barrel of oil, possibility of lifting large volumes by proper selection of engine and pump, and it provides a practical use for compressors which have previously been installed for ordinary gas lift.

Displacement Gas Lift Pump

A chamber made up of as large size casing as can be run into the hole and of sufficient length to accumulate about two barrels of fluid is attached to the outside string of tubing by means of a housing which carries three lead seats and an opening or port in its side. This housing also supports a check valve and a string of small pipe which extends to the bottom of the chamber. A standing valve is run on the bottom of the casing. An inside string is run and seated on the lead seats in the housing. The shoe on the inside string permits the passage of injected gas from the annular space down into the chamber and allows the oil, after being forced from the chamber up into the small string, to cross over into the inside tubing. A two way valve carried on the shoe permits gas to enter until a certain predetermined pressure has been reached, when it reverses itself, closes the port, and allows the gas pressure to be exerted against the top of the fluid. When the fluid has been displaced from the chamber up into the tubing and sufficient amount of gas has followed to carry it to the surface, the intermitter is set to cut off the gas. The pump utilizes the expanding force of gas to carry the oil to the surface, thereby eliminating extremely high pressures which would be necessary in deep wells if the straight displacement pump were used. This method seems most adaptable when production has declined below a point when gas lift can be economically applied and where fluid levels are so low as to make gas lift inefficient. A large number of wells in the Seminole area have been pumped successfully by this method and it seems to meet a very definite need in fields where gas lift has been used.

"Weighing Wells," a group paper by R. M. Carr, Sinclair Oil & Gas Company; H. D. Collins, Gypsy Oil Company; R. R. Hawkins, The Texas Company, and L. F. Thompson, Carter Oil Company, was compiled by Mr. Thompson. The subject of weighing wells is one closely associated with deep well pumping and a subject which is directly related to the problems to be encountered in Oklahoma City as well as other Mid-Continent fields.

At the present time there are three general types of dynamometers in use:

1. Spring type, in which the loads are obtained by the distortion of springs.
2. The electric telemeter, in which the loads are recorded by electric instruments, the current being mutated by the variable resistance of carbon piles attached to the polish rod, and carrying the load of the well.
3. The hydraulic type.

The last type may be divided into two classes, the piston dynamometer, and the diaphragm type. The choice of instrument should depend on the following criteria:

1. Accuracy, dependability and durability.
2. First cost.
3. Facility with which the apparatus can be mounted and detached.

Wells Are Weighed

With the use of the dynamometer, wells are weighed and all factors are adjusted to give the most efficient pumping. This could be done by any man who knows well pumping without the use of such an instrument but by its use the information may be obtained in a few days' time where otherwise weeks would be spent.

It is a relatively simple matter to weigh a well by the use of the dynamometer, but after a card has been obtained, the problem of interpretation of the information requires the application of good judgment as well as mathematical deduction. Although, this sort of investigation is in its infancy, most of the companies have seen fit to undertake a study of the method, considerable research must yet be done before its true value can be analyzed in dollars and cents.

Data now available indicate that weighing of wells has accomplished the following results:

1. Elimination of shocks in the pumping stroke.
2. Determination of the correct speed of stroke.
3. Scientific counterbalancing.
4. Information as to efficiency of equipment.

This paper involved a lively discussion as to the value of the dynamometer and the concensus in favor of the study, although it was pointed out that the instrument is only a tool by which the engineer may quickly gain intelligent information on a subject which has been handled mainly by guess.

In California

Following this, a paper was read by Bruce H. Robinson, General Petroleum Corporation, on the weighing of deep wells in California. The paper was prepared by R. R. Robinson, Martin-Decker Corporation. The fundamental principles, as applied in California, are the same as those now being applied in the Mid-Continent, with results varying widely. It appears that study in Pacific Coast fields has indicated more successes where the number of strokes per minute has been reduced while much of the study in the Mid-Continent has tended to increase the pumping rate. It should be pointed out that in the former area, practically all of the tests have used electric power while in the Mid-Continent very little has been used.

"Admixtures in Rotary Mud," by C. P. Parsons, Halliburton Oil Well Cementing Company, was the third paper of the program. Deep drilling in areas where thick beds of sand and shale are to be drilled and extremely high rock pressures and large volumes to be encountered, has evolved the question, "What is an ideal drilling fluid?" The answer is a variable depending on individual conditions both as to area and as to individual wells within the same area. In general the functions of an ideal rotary fluid will include the following:

For drilling in areas of normal pressures, an ideal rotary fluid is one that will have sufficient viscosity and colloidal quality which, when combined with the force of velocity, will immediately carry all cuttings from the bit to the surface at the same velocity as the mud stream itself. One that is free from abrasive content when it enters the pump suction, that will not settle more than two per cent in 24 hours, that will, upon the stopping of any mechanical agitation or disturbance, tend to gel and hold all of the cuttings in the same place as they were when circulation stopped, then when disturbed by running the drill stem, will return to its original liquid state, that will be white in color so that the amount of contamination will be easily recognized, that will be non-corrosive, that will have a very low freezing point, and that will not lose any of its colloidal quality when it comes into contact with briny solutions.

The paper pointed out that such an ideal fluid could not be obtained through the use of natural clays but that by the use of scattered materials it is possible to economically produce a fluid which meets most of the requirements. Admix-

(Continued on page 27)

Wells Point to Deep Production On All Sides of Barbers Hill

By JACK LOGAN
Staff Representative

A HOPE which was little more than a dream 20 months ago now seems destined to be realized before long at Barbers Hill dome, Chambers County, Texas. When the first "deep" commercial production was obtained in October, 1928, on the northwest flank of the field, operators who were interested entertained vague visions of similar deep wells some day encircling the dome. Perhaps the same new sand, found around 5100 feet, would extend around a considerable portion of the dome, it was predicted; and then there might be other productive deep horizons.

But the most enthusiastic of those delving into the future could hardly have foreseen the unerring, methodical exploration which was to culminate in the present advanced stage of development. Deep production having been established almost simultaneously last week on the southwest and the north flanks, Barbers Hill dome is now known to have potentially productive deep sands virtually all the way around it.

Derricks over closely-spaced, producing, deep wells now form a continuous circle from the northeast side of the field down the east flank and around much of the south edge of the dome. On the west side of the south flank is Mills Bennett Production Company's Barrow 7, which came in recently as a 2000-barrel well at 5642 feet although it was short-lived. On the southwest flank is Zadie Fisher 1, the new deep producer of Yount-Lee Oil Company, completed last week. On the northwest side are the two 6400-foot producers of Humphreys Corporation, Kirby A-8 and A. E. Barber F-1. Toward the east on the north flank is Humphreys Corporation's F. H. Morgan 1, one of the semi-wildcats which came in the past week yielding some oil, although failing to develop into a commercial producer. Thus the presence of deep oil sands on nearly all sides of the dome has been revealed already. The gaps of approximately 6000 feet each between the two Humphreys Corporation deep wells on the northwest flank and the new wells on the southwest and north flanks are the largest unproved sectors around the dome, but neither of those sectors has yet been tested for deep production. However, something of their possibilities will likely be known before many more months have elapsed. Already a location has been made by Sun Oil Company on the O. K. Winfree lease about mid-way between the new Yount-Lee Oil Company producer, Zadie Fisher 1, and the two Humphreys Corporation wells on the northwest corner of the dome.

Screen Set Higher Up

Yount-Lee Oil Company's Zadie Fisher 1, the deep sand discovery well of the southwest flank, is 6929 feet deep, but the lower portion of the hole is in sand and shale considered as non-productive, and screen was set higher up. According to information obtained in Houston the completion of the well comprised setting of 218 feet of five-inch screen at 6661 feet, 697 feet of blank pipe, then 41 feet of screen, and 83 more feet of blank. A string of tubing was run, and the well came in flowing. Conflicting with the above information, other reports in Houston showed screen to have been set at 6690 feet. In either instance, however, this well is the deepest producer in the Texas Gulf Coast. It was completed May 21, 1930. On a one-hour gauge it flowed at the rate of 2025 barrels daily through a one-half-inch choke. Ten per cent of the production was said to be b.s. and water. A three-eighths-inch choke was later substituted for the half-inch, and on a two-hour gauge the well flowed at the rate of 1155 barrels daily. Temperature of the oil at the well was 80 degrees, and the corrected gravity was 34.6.

While the well is producing from the deeper sands, there were various higher sands, from 5700 feet on down, which were regarded as potential oil producing zones.

Zadie Fisher 1 is about one mile west of the main deep production of the south flank of the field, and it is a little over 6000 feet south of the two deep wells of Humphreys Corporation on the northwest flank.

In gaining the distinction of being the deepest producing well in the Texas Gulf Coast it captured the title which had been held for only a few days by A. E. Barber F-1, the second of Humphreys Corporation's two completed producers on the northwest flank. A. E. Barber F-1 was finished May 19 as a 1000-barrel well at 6492 feet. It in turn had taken the title from the well which it offsets, Humphreys Corporation's Kirby A-8, total depth of which is 6416 feet.

On the whole Texas-Louisiana gulf coastal plain there have been only two other producers completed at depths greater than that of Yount-Lee Oil Company's Zadie Fisher. Both were Evangeline, Louisiana, wells, each over 7000 feet deep, and incidentally, both were also drilled by Yount-Lee Oil Company.

Only a few hours before Zadie Fisher 1 came in, the first deep production was obtained on the north flank of Barbers Hill dome when Humphreys Corporation's Morgan 1 began flowing. Four joints of 4¾-inch screen were set in it at total depth of 6404 feet, and the well came in and flowed for one hour, but then sanded up. It showed 250 pounds pressure, and was producing 23.5 corrected gravity oil along with eight per cent mud, water and sand. Tubing has been pulled, and the well will be worked over in an attempt to make it produce. As in the deep producer of Yount-Lee Oil Company there were important showings in higher sands, and should efforts for the deeper production prove unsuccessful the owners of the well may try for production in sand and shale with good oil showings encountered around 5350 feet.

Morgan 1 is located approximately one mile west of Humphreys Corporation's Kirby C-1, the nearest of the deep wells on the north end of the east flank of the field, and it is slightly over 6000 feet east of the two deep producers of Humphreys Corporation on the northwest edge. Mills Bennett Production Company's Barber 2, located 1600 feet west of Humphreys Corporation's Morgan 1, was drilled originally to 5625 feet, encountering sand with oil odor around 5600 feet, was later sidetracked at 3900 feet and drilled to 6967 feet, at which depth drill pipe was stuck. It is now shut down, waiting on orders. The well is regarded as being a little too far off the edge of the dome.

Southeast Offset Successful

Humphreys Corporation's A. E. Barber 1, southeast offset to the same company's Kirby Petroleum Company A-8, discovery well of the deep production on the northwest flank, is also a new well. It was swabbed in May 19, 1930, from total depth of 6492 feet, following setting of two joints of 4¾-inch screen and running of three-inch tubing, and it began flowing 34 gravity pipe line oil at the rate of 1000 barrels daily, producing through a five-eighths-inch choke, and showing pressure of 240 pounds.

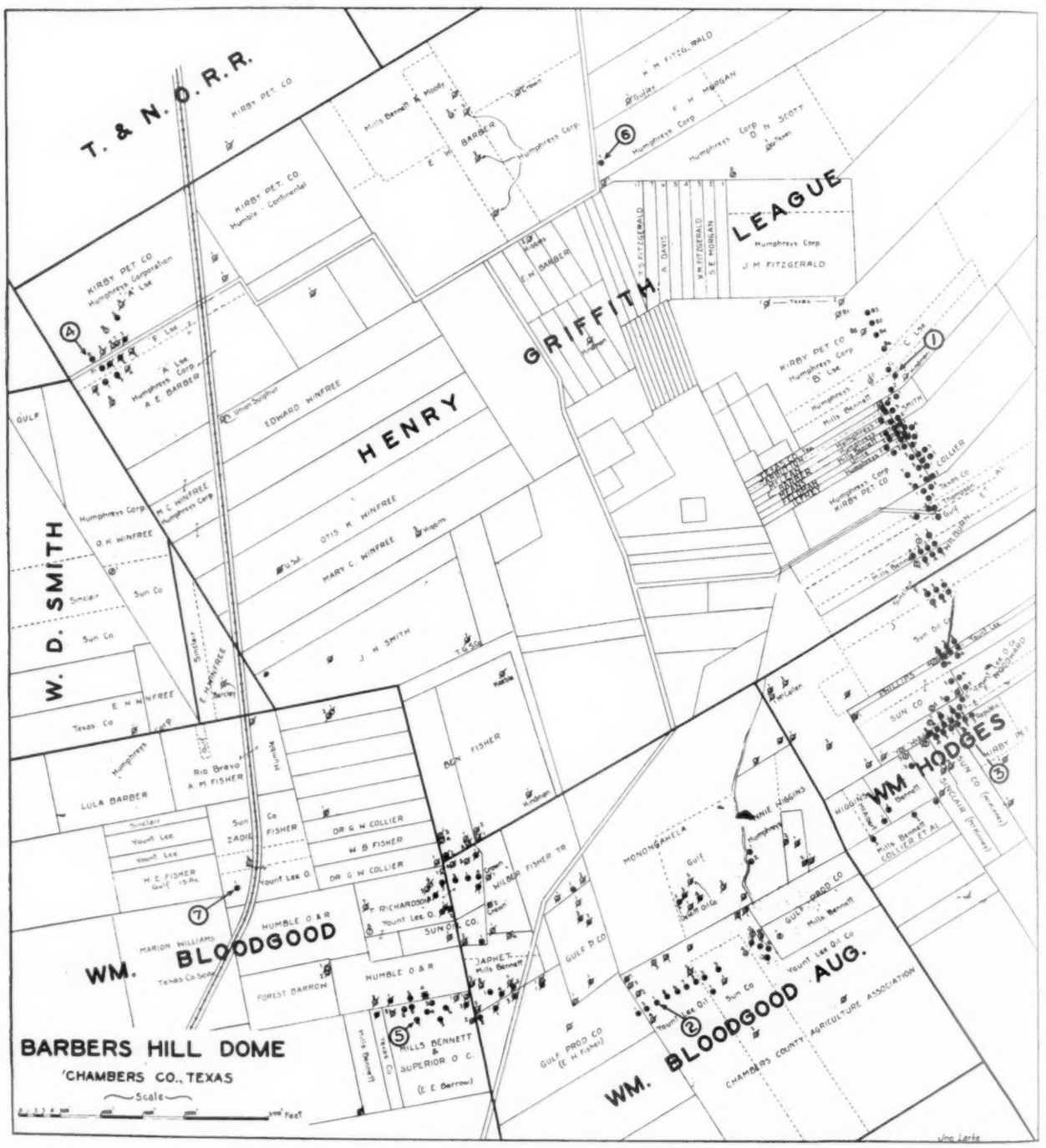
Kirby A-8, the first deep producer on that edge of the field, located near several shallow wells and dry holes, came in January 4, 1930, for an initial flow of 10,262 barrels per day of 34 gravity oil, producing from lower Oligocene sand at 6397-6416 feet. Last week, about 4½ months after completion, the well was

still flowing around 1450 barrels daily, the pressure on the drill pipe, which is still in the hole, and through which it is producing partially, being 275 pounds, and that on the casing being 70 pounds. Up to May 24, 1930, the total production of the well had reached approximately 607,000 barrels.

The accompanying map indicates deep sand discovery wells on the various sides of the dome, the encircled numbers showing the chronological order in which they came in. Those on the west and north sides have been discussed above. On the west side of the south flank is Mills Bennett Production Company's Barrow 7, indicated as the discovery well of deep production on that edge of the dome. It was completed originally on May 13, 1927, as a 300-barrel producer at 3900 feet, but within recent months it was deepened in search of the more prolific sands found on the east and south flanks, and about April 15, 1930, when screen had been set at total depth of 5643 feet, it came in flowing at the rate of 2000 barrels daily, registering pressure of 200 pounds. After 30 minute, however, it quit flowing, due apparently to sanding up, and subsequently the hole was sidetracked. Last week a 20-foot joint of 4¾-inch screen was set at 4748 feet, and 2½-inch tubing was set on seal, but the well would not flow. On swabbing test it showed salt water, and the company now proposes to cut and pull casing.

Review of Discovery Wells

Information regarding the discovery deep wells along the east and south flanks will be reviewed briefly. The discovery well of the prolific deep horizon now producing along those flanks, and in the strict sense the original deep producer of the Barbers Hill field, was Mills Bennett



This map represents a pictorial history of the development of deep production at Barbers Hill. Deep sand discovery wells on various sides of the dome are indicated by the arrows and the encircled numbers, the latter denoting chronological order in which the wells came in.

Production Company's Kirby 1, located on the north end of the east flank. It was completed November 20, 1927, in Oligocene sand at total depth of 5468 feet, flowing pipe line oil for a few hours at the rate of 1200 barrels daily. Water then broke in from an upper sand, and the well was reduced to a 200-barrel producer. Mills Bennett Production Company's Smith 1 was then drilled on a location 325 feet to the south, and it was completed October 9, 1928, for initial flow of 4000 barerls of 27 gravity oil at 5240-5278 feet, definitely establishing the first prolific deep production of the field. Similar deep production was established on the south flank of the zone on January 29, 1929, when Yount-Lee Oil Company completed Chambers County Agricultural Association 1 for an initial flow of 4700 barrels from sands from 5107 to 5318 feet. The same horizon of the Oligocene was opened for production in an area midway between the above two deep wells on July 27, 1929, when Republic Production Company completed Kirby 1 for 3420 barrels initial production from total depth of 5194 feet.

From the standpoint of profitable development, Barbers Hill is strictly a deep field. Although oil prospecting was begun there as early as 1902 commercial production was not established until 1918, and even during the decade following that year the field made a very poor showing, with all the production coming from relatively shallow, Miocene sands. By the summer of 1928 it had yielded in all its history barely 1,000,000 barrels of oil. At present, due to the deep sand development, the dome is producing around 18,000 barrels daily. Up through May 17, 1930, the total recovery from the field had increased to 9,166,700 barrels. There are other salt dome fields in which there has been deep, flank sand development, but most of them were good fields before deep drilling. Barbers Hill, in contrast, owes all its eminence to the deep development.

Aside from being an outstanding deep Gulf Coast field Barbers Hill is individual in that it is one of only a few of the Texas-Louisiana coastal fields where production has been established on practically all sides of the dome. It is the only one with deep production already proved up on all sides. Hull has production practically around the whole dome, but it is not a "deep" field in the modern sense in the Gulf Coast. About the same may be said of South Liberty. Spindle Top does not have production off the north and east flanks. Pierce Junction does not have it on the south.

Several new locations have been made on the west and northwest sides of Barbers Hill dome during the past week. Humphreys Corporation located Kirby A-9 as a northeast offset to Kirby A-8. Following completion of the new deep well of Yount-Lee Oil Company on the southwest flank several locations were made by that company, and Sun Oil Company made location for Winfree 1, mentioned above. Those various new locations are shown on accompanying map.

Aside from the deep semi-wildcat producers finished the past week there were several other wells completed. Yount-Lee Oil Company's Phillips 3 on the east side of the field came in flowing at the rate of 1455 barrels daily, 27.1 corrected gravity pipe line oil, through one-half-inch and three-eighths-inch chokes from total depth of 5306 feet. Sun Oil Company's J. Wilburn 6 flowed at the rate of 1000 barrels daily from 5301 feet. The same company's Wilburn Fee 6 was completed as a pumping well at 5263 feet, but is now dead. Farrell & Lawrence finished Wilburn 1 as a pumping producer at 2140 feet.

Approximately 20 drilling rigs are in operation at Barbers Hill. Aside from Refugio it is the most active field along the Texas-Louisiana Gulf Coast.

Engineers Look Forward On Oklahoma City Problem

(Continued from page 24)

tures and reagents at present have three principal uses: First, as a mud body; second, as a colloidal material; third, as a weighing material. The following are now in general use as admixtures in the Mid-Continent.

1. Bauxite.
2. Diatomaceous Earth.
3. Kaolin.
4. Shale.
5. Silica.
6. Talc.
7. Tripoli.
8. Bentonite.
9. Barite.

Many admixtures are on the market and the decision as to which to use is one which should be reached after a careful study of the conditions to be encountered. In areas of abnormal pressures the problem is considerably complicated and successful operation can be had only by carefully determining at all times the condition of the fluid as to its colloidal quality, its weight, and its viscosity. When drilling the cement plugs in the Oklahoma City field, it has been observed that the mud decreases in weight. One operator in that area stated that he uses a 10-pound fluid and upon drilling the plugs finds that the weight decreases as low as seven pounds to the gallon. He circulates about nine hours and regains the proper weight by replacing and remixing. Cement, mixed into the mud fluid, causes a fluffy condition and permits the mud to pick up gas from below the plug. One company follows the plan of diverting all such mud to a reserve tank and due to a shortage of mud believes that a treating method would be very desirable. This problem is deserving of much study due to the possibility of a lightened condition of the mud fluid at the time of drilling the plugs, resulting in an insufficient hydrostatic head and in many instances a possible blow-out.

"Treating Crude Oil Emulsions," a group paper by P. L. Guarin, Shell Petroleum Corporation; R. R. Hawkins, The Texas Company; J .R. McWilliams, Skelly Oil Company; C. D. Miller, Barnsdall Oil Corporation; L. A. Ogden, Empire Companies; Charles Prather, Gypsy Oil Company, and G. A. Shaner and I. S. Salinkov, Carter Oil Company. It was compiled by C. D. Miller.

The subject of treating oil emulsions is one which is not new. However, the importance of the question is revealed by an estimate that 20 per cent of all of the crude produced in the Mid-Continent requires treating before it is acceptable to the marketing companies. Usual conditions in pumping wells causing emulsions are:

1. Slippage of fluids past faulty valves, plungers, and cups.
2. Wells pounding down.
3. Leaks in the tubing and tubing catchers.
4. The agitation of oil by gas in the tubing, lead lines, and tanks.
5. The whipping of rods in the tubing.

The study of treatment may be divided as follows:

1. Treating methods.
2. Kinds of chemicals.
3. Points of introduction of chemicals.
4. Kinds of lubricators.
5. Distribution of chemicals.
6. Tanks.
7. Plant construction.

Treating Oil Emulsions

The treatment of oil emulsions has met with varying degrees of success in the Mid-Continent area. With few exceptions the emulsions are water in oil, and are formed in the majority of cases by excess agitation. Much of the treatment of oil can be avoided by the elimination of the causes of this agitation.

A combination of chemical, heat, and settling is the prevailing method of treating. Down hole treating is proving successful on gas lift and pumping wells. The prevailing heater is the old oil field boiler. The average costs have been between one and two cents per barrel. Large settling tanks give the best results and should be of welded vapor proof construction. The final test of treating, after the method of treatment and the equipment and materials have been selected, is the effect of such treatment on the gravity of the oil. There have been many instances where high efficiency has been obtained in the selection and operation of equipment, and in the final analysis, no advantage had been gained due to loss of gravity.

The final paper on the subject of water and mud disposal and reconditioning in California, was read by E. L. Decker, Martin-Decker Corporation. Slides were presented showing the various units of large disposal plants. This subject, although not now highly important in the Mid-Continent area, will probably gain impetus with the progress of town-lot drilling in Oklahoma City. It appears that some sort of disposal and mud reconditioning plants will be desirable where wells are being drilled on tracts not large enough to permit the building of the necessary slush pit capacity.

The discussion here presented is intended as a digest of the material and the papers in detail will appear in this and other issues of THE OIL WEEKLY.

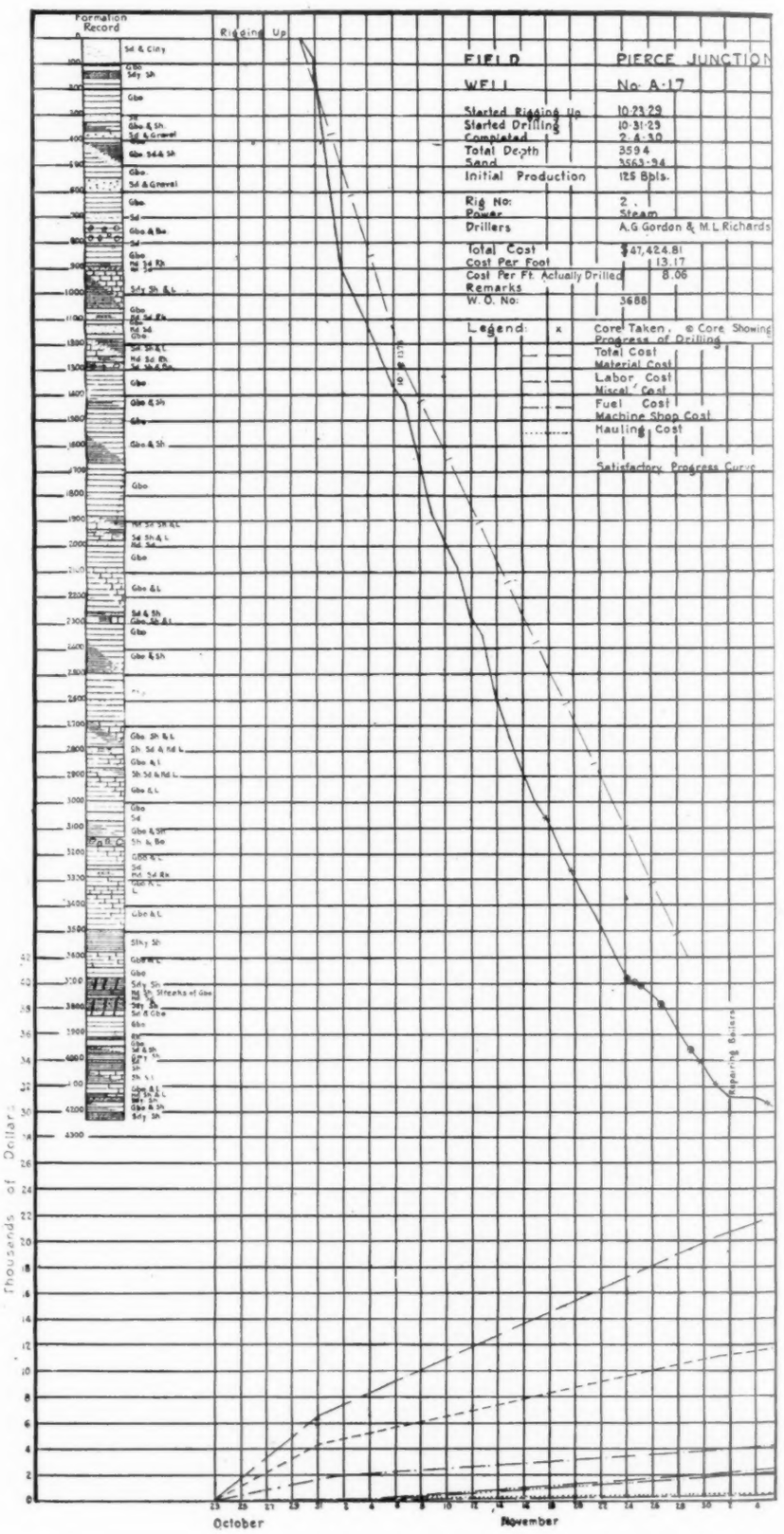
Well Drilling Chart Gives

THE correct analysis of the progress of drilling of an oil well, at the time the well is being drilled and the passing of the opinion whether this progress is satisfactory, is extremely difficult for the man in the executive charge of the operations of an oil company. To understand this it is necessary to realize the amount of records which of necessity cover the different phases of which drilling of an oil well is composed. Each of the departments, operating, engineering, geological, purchasing and accounting, prepare reports which necessarily must contain detailed information. To obtain a clear picture of the progress of drilling, it is necessary to analyze these records and co-ordinate them in relation to each other and in relation to time. The task grows of course more complicated in proportion to the number of wells simultaneously drilled.

On the other hand, the money invested in the drilling operations of an oil company represents such a great part of the expenses of any company that the careful study of the great progress of those operations by the executive is imperative.

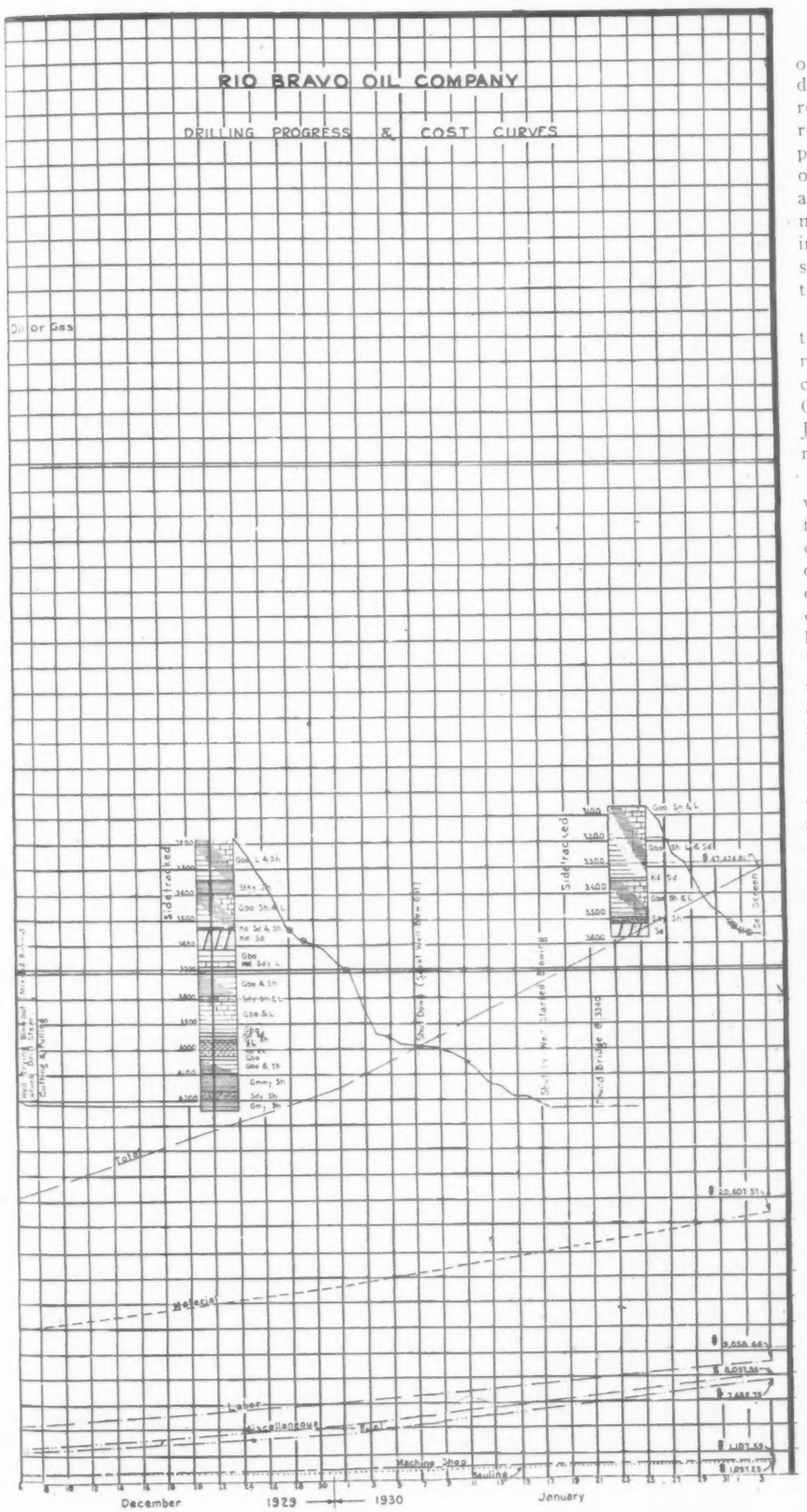
Realizing the difficulties and importance of an accurate check on progress of drilling operations, James Hutcheson, vice president and general manager of the Rio Bravo Oil Company, determined to work out a record which would give, at the time the well is being drilled in a simple, easily readable, preferably graphic form, all information which are necessary for the close check of the progress of drilling operations. The record as developed by James Hutcheson and Joseph Zaba, petroleum engineer with the Rio Bravo Oil Company, serves now two purposes: first, it keeps the executive officer of the company informed during the progress of the drilling whether this progress is satisfactory; second, it forms, after the well is completed, a complete graphic history of a well. The record is arranged in such a way that if desired, an easy reference can be made to more detailed reports kept by different departments. The drilling of an oil well is a function of so many variables that it is impossible to set a general standard for satisfactory progress or cost. However, after several wells have been drilled in a given field, certain ideal hypothetical requirements for progress and cost of drilling in this field can be made. As outlined later in this article these hypothetical requirements are being used as basis of comparison with actual progress and cost.

For the purpose of the record, Mr. Zaba employed ordinary graph sheets. Along one side of the sheet the well log is filled in in pencil until completed, when all records are inked in. Each section of the chart represents, horizontally, a period of time, either two



Daily Record With Costs

By W. H. McGREW



or three days, and perpendicularly, drilling progress in feet, each section representing 100 feet of drilling progress. At the bottom of the chart, the perpendicular spaces represent dollars of investment in the well, each sectional space representing $1,000 of investment. And as in the case of the drilling progress record, the horizontal spaces represent time in days, required to drill the well.

A representative chart is shown in the accompanying illustration which represents the drilling progress and cost curve chart for Rio Bravo Oil Company's Settegast A-17, at Pierce Junction, which was completed in February, 1930.

The graph on this Pierce Junction well represents an early experimental form of the drilling progress and cost curve chart. This chart shows the cost of drilling subdivided into several minor items. Graphs on later wells, however, represent the form which has been accepted as standard. In these latter graphs the cost of drilling is subdivided into but four different costs, and in this record also, acid bottle tests are graphed to the left of the geological log of the well.

Graph on Pierce Junction well has been chosen for demonstration as it represents a complete history of a well which had considerable difficulty in drilling, two sidetracking jobs being necessary before the screen was set at 3600 feet. This graph shows how clearly the whole history of a completed well can be seen from this record.

The drilling progress curve shows the relation of feet drilled to time. The angle of the curve against the horizontal is the index of speed of drilling. Should the curve at any time become horizontal, which would indicate no progress in drilling, an explanation or cause is written on the curve (in general all important happenings are written on the curve, especially in case of a fishing job). Core is indicated on the chart by a cross on the curve; core showing oil is indicated by a cross within a circle. Acid bottle tests are carried in graphic form on the left of the geological log.

The showing of the cost data is obviously more complicated. In order to avoid overloading the graph with details, several simplifications have been found necessary, which, however, do not affect the true presentation of the cumulative cost of drilling. At the end of each month charges against the well are posted after being prepared and

presented by the accounting department, for the previous month. During the drilling of the well the cost curve, therefore, is always one month behind the drilling curve. By going to the records, the executive may, if he wishes, find out how the charges are distributed during the month. The information thus obtained, however, would not justify the trouble and work. It has been assumed, therefore, that the charges are distributed proportionately during the month. Furthermore, for the purpose of clear, graphic presentation, the cumulative curve is corrected to include charges which come in after completion of the well, in order to make the ends of progress and drilling curves coincide.

In addition to the drilling progress and cost curves and the record of acid bottle tests, the graph contains all important information such as initial production, name of drillers, cost per foot, etc., which is inscribed on the record.

It is to be noted that in the accompanying graph for well A-17 two costs per foot are included: the first represents the cost per foot of the producing depth of the well, which was sidetracked twice, and the second represents the cost per foot actually drilled.

As stated before, after several wells have been drilled in a given field certain ideal hypothetical requirements for progress and cost of drilling can be computed for this field. These requirements are interpreted on the charts in form of ideal or satisfactory progress and cost curves, these curves being plotted on chart for each well at the time drilling of the well is started. No attempt is being made to work out these curves for sidetracking or deepening jobs because of the amount of unknown quantities which enter into these kinds of operations. The graph shows such an ideal progress curve. Satisfactory cost curves are now being worked out and are not shown on graphs.

Charts on all drilling wells are being kept in pencil and go once a week to the office of vice-president and general manager. Should any deviations from satisfactory requirements be found the cause is investigated. Quite often the investigation will show that circumstances justify these deviations. If not, necessary steps to correct these deviations are made. After the well is completed and all charge adjustments made the charts are inked in and filed.

It should be noted that after these charts have been brought to their present form the keeping up of these records is purely a matter of routine and is being done by the clerical force of the operating department. Inasmuch as this chart represents summary of information kept by different departments, keeping of this record requires very little time in proportion to the value of the record.

Economic Lease Development Involves Close Check on Costs

By GRADY TRIPLETT

As a method of presenting the subject, take the Sy Moore lease of the Blackwell Oil & Gas Company. The foreman of that property may never have gone into a pleading session with some company executive in an effort to have some equipment for the property charged as an investment rather than an expense. But it is not unusual for foreman of the company to seek such a change on the books at company headquarters in Cushing, Oklahoma.

As every bookkeeper and every executive knows there are lease charges, which are of this questionable character. These are rare, for the most lease expense falls readily into one or the other of these columns and the matter of a decision requires but a moment of consideration. The official scorer in a World Series baseball game goes along crediting hits, assists, put-outs and charging errors; then along comes a play, which arouses a question. A hard hit ball is knocked down by an infielder, who recovers the ball but his throw is late at first base. Should the batter be credited with a hit, or the fielder charged with an error. The judgment of the scorer is the final authority.

So it may be with the listing of some costs for an oil lease. The final authority may in rare instances rest on the opinion of some executive. Then it is that some foreman is likely to come along and strive to convince the executive that the particular cost should be charged to investment, rather than expense.

Such instances are but part of the evidence that this company has all its superintendents, farm bosses and foremen working constantly for lower lifting costs. Striving to have some cost shifted on the books is such a small part of this effort that it deserves scant consideration, on the score of effort. It simply demonstrates how anxious the men in charge of leases, are to have their costs come in at low figures.

Total expense on a lease for a month, divided by the gross barrels coming from the lease, giving the lifting cost per barrel for the month. By this method the company informs each foreman what his lifting costs for the month has been.

Lifting Costs on One Record

For several years Blackwell Oil & Gas Company has calculated lifting costs by leases and compiled them on one sheet of paper. These were given to district superintendents, who in turn distributed them to lease foremen. Recently the company began publishing Blackwell Oil & Gas Company News, a house organ of six pages, so the record of lifting costs by leases is now a part of each monthly issue of this publication.

A double-barrel type of competition has been developed through this method of acquainting lease foremen with their lifting costs. Although the monthly publication has given the figures wider distribution, the former method of lists, for distribution to the foremen, served as effectively in establishing this competition. The first competition is between leases. The lower the cost per barrel, the better a lease looks when its figure has come through the printing press . The second part, however, is of perhaps greater value. It keeps a lease in competition with itself, as one month compares with another. A lease with a cost of 48 cents per barrel one month, looks bad to its foremen, if the next month shows 51 cents a barrel.

As between leases there is a wide variation. So many variable factors apply between leases that uniformity is neither possible nor desirable. Lifting costs for the Blackwell Oil & Gas Company in March, 1930, ranged from a low of 12 cents a barrel to $1.71 a barrel.

Self-Competition Set Up

It is the competition, which a lease foreman sets up for himself, that is the more desirable and profitable to the company. It accounts for those rare efforts to have the charge on some item placed in the investment column, rather than the expense column.

The less spectacular part of it comes from the use the foremen make of equipment, which is chargeable as expense. The experience of the company has been that the foremen are sparing in their needs for equipment and prone to use it to its best advantage, for in this they can contribute most toward keeping the cost per barrel low. The fewer the pulling jobs and the longer the life of shackle rods, the lower will be expense, something that applies to all equipment on a lease.

Blackwell Oil & Gas Company's lease foremen are bent on following these suggestions from O. W. Pollet and printed in the April issue of Blackwell Oil & Gas Company News:

"Keep all equipment, from the engine through to the polished rod, lined up.

"Keep all keys in the sills tight.

"Keep all blocks, heave caps, pitman, tail boards and band wheel bolts tight.

"If necessary close down a few minutes each day to see that everything is tight.

"Counterbalance with enough weight and off center from the top and bottom of the pitman stroke.

"Adjusting the gasometer on the gas engine, and changing the timing and air valve, will make the engine hit regularly without cutting out. I believe one of the main causes of traveling valve motion is the timing, or rather the cutting in and out of the gas engines."

WEIGHING WELLS

By L. S. THOMPSON
Carter Oil Company, Tulsa, Oklahoma

Paper presented before the May, 1930, meeting of the Mid-Continent District, American Petroleum Institute—Division of Production

THE matter of obtaining definite information as to the loads on sucker rods, and all pumping equipment has interested a number of engineers for several years. Various methods were devised to obtain the desired data, but credit is due to F. W. Lake, Union Oil Company, of California, as much as to any one man, for the prominence given this subject today, and to the development of the recording dynamometer. Mr. Lake's results, prior to the end of 1927 are given in the paper "Sucker-Rod Strains and Stresses," delivered before the New York meeting of the A. I. M. E., in February, 1928.*

At the present time, there are three general types of recording dynamometer in use:

1. The spring type, in which the loads are obtained by the distortion of springs.

2. The electric telemeter, in which the loads are recorded by electric instruments, the current being mutated by the variable resistance of carbon piles attached to the polished rod, and carrying the load of the well.

3. The hydraulic type.

The last type may be divided into two classes, the piston dynamometer, and the diaphragm type.

If properly calibrated, the results obtained with any type of instrument should be the same. The choice of instrument should be determined by the following criteria:

1. Accuracy, dependability and durability.
2. First cost.
3. Facility with which the apparatus can be mounted and detached.

Whatever type of machine is used, it should receive the care and attention due an expensive apparatus. All parts should be kept clean and all moving parts lubricated. The dynamometer should be properly calibrated before being put in use, and checked at intervals either in a testing machine, or, if one is not available, against another dynamometer which has been recently tested. With the hydraulic type (which is most generally used), intervals of at least one year should be possible between these checks on calibration, unless there be good reasons to suppose that something has gone wrong.

Purpose and Field of Application

Before entering into any discussion of dynamometer tests, one should understand exactly what this work is, and what are its limitations. The dynamometer is not an instrument of magic. It is simply a tool. By its aid, a fund of valuable data is obtained, which without it, would be quite impossible. Any man who really understands the business of pumping oil wells can, without a dynamometer adjust his stroke and balance his well as perfectly as necessary for all practical purposes. But, to do this work correctly, weeks and even months of constant experiment and observation may be required, and frequently, there is the danger of well conditions changing before constructive changes can be made. The same information can be obtained in less than a day from proper interpretation of the results of weighing the well.

As regards a check on the performance of all equipment, the mere keeping of systematic records provides a fund of valuable information, but even this may lead to costly mistakes and needless reduplication of effort. From the results of the dynamometer tests, however, exact information can be obtained so that one will know exactly what power is transmitted by his belt, what loads are carried and what service is delivered by his sucker-rods, whether or not the particular working barrel he is using presents characteris-

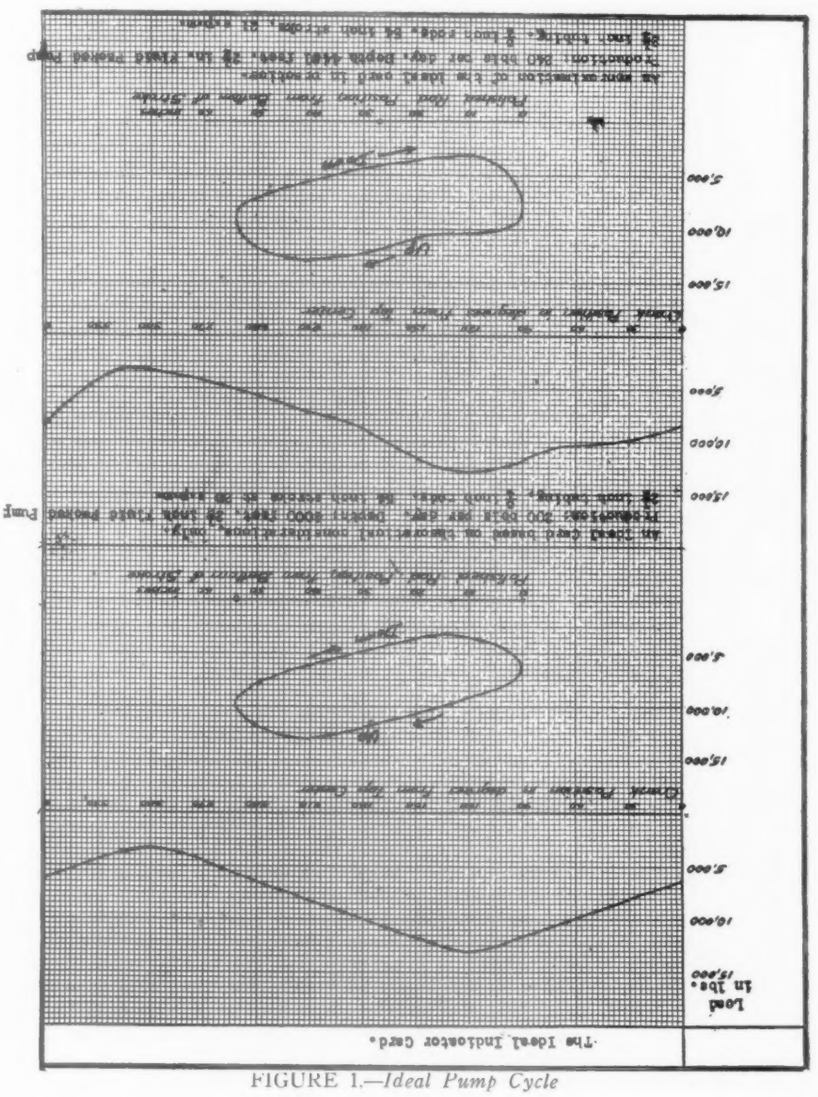


FIGURE 1.—*Ideal Pump Cycle*

*A. I. M. E., Petroleum Division: "Petroleum Development and Technology in 1927." PP. 337-349.

tics which are detrimental to the service of a particular well, etc.

With wells on the beam, it is possible to determine the best length and speed of stroke both for production and for effect on equipment. The well can be correctly counterbalanced, the proper size of rods chosen, and the effects of a loose rig or of loose or improperly adjusted auxilliary equipment be demonstrated.

The same information can be obtained in the case of wells pumping on the jack from central powers. It also has the advantage of giving direct information for balancing of the wells, one against the other.

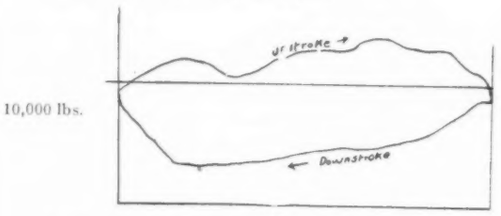
With the dynamometer, also, it is possible to determine the mechanical efficiencies of the equipment with the resultant choice of prime mover, reduction gears, size of belt, etc. Many other uses are to be found for this instrument such as in field tests, as well as in production problems, and as an aid to modern engineering practice as applied to the business of producing oil, it is becoming almost indispensable. It must be constantly borne in mind, however, that it is only through careful, scientific interpretation of the cards that results can be obtained. Do not expect the dynamometer to tell you too much, for if you do, you will be disappointed.

FIGURE 2

EFFECT OF COUNTERBALANCING

Pumping Data: (for both cards)

Total depth 4481 feet
2½-Inch Fluid Packed Pump. 2½ tubing, ¾-inch rods.
44-inch stroke at 21 s.p.m.

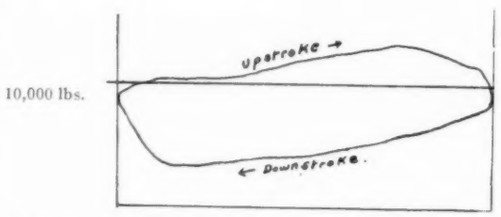


Loads—Max. 13,800 lbs.
Min. 3,100 lbs.
Aver. 8,400 lbs.

Speed Variation,
Max. to Min. 19%

Production:
230 bbls. per day
41 A.P.I. grav. oil
No water.

Card A. Underbalanced—Dead weight balance, effective weight at pitman was 1,100 lbs.



Loads—Max. 13,100 lbs.
Min. 3,200 lbs.
Aver. 8,300 lbs.

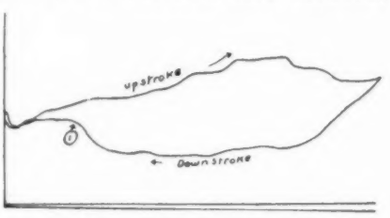
Speed Variation,
Max. to Min. 10%

Production:
240 bbls. per day
41 A.P.I. grav. oil
No water.

Card B. Approximately correct balancing. 500 lbs. effective deadweight plus 4,000 lbs. rotary balance. Center of gravity 36 inches from crank, radius of gyration 42 inches from crank

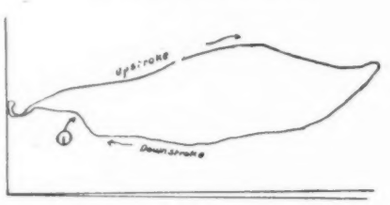
FIGURE 3

EFFECTS OF LOOSE RIG IRONS, ETC.



Card A. Ratigan Beam Hanger loose, and pounding. Pitman Stirrup loose and pounding beam, (due to inadequate counterbalance.) Sampson Post anchor bolts loose

Pound of Pitman stirrup



Card B. The same well with anchor bolts tightened and beam hanger properly adjusted

Vertical Scale: 1 inch=8,000 lbs.

Operation

The engineer should know his instrument. Before making a test, he should see that all parts are in working order, that no moving parts are bound in any way, and, in the case of instruments of the hydraulic type, that the system is free from air bubbles.

In taking a card, it is better practice to let the pencil track for several strokes, instead of taking a single stroke. In this way, any irregularities in the pumping cycle are shown. The actual time consumed in taking a card, then will be about a minute. Whenever any change is made in condition, as in speed or length of stroke, at least thirty minutes, (and often longer intervals, depending on the well), should elapse before taking a card. One of the greatest delays incurred with many types of instruments is in making the set-up and tearing down, therefore, when obtaining a dynamometer this should be borne in mind, and assuming the accuracy of the instruments in question is the same, the one that is the easiest handled at the well, should be given priority.

In order to derive the greatest possible information from the dynamometer cards, a large amount of accessory data is required. The length and speed of stroke are absolutely essential, as well as the specifications, sizes and length of string of both tubing and rods, and the design and dimensions of the pump.

The sizes and specifications of all surface equipment, such as engine or motor, pulleys, bandwheel, bolts, etc., are necessary. The R.P.M. ,of the various elements, engine, countershaft, reduction gears, etc., should be recorded. Production at the time of observation is important for comparison of improvement or the reverse, in a given well, although this figure cannot be applied indiscriminately to other locations, owing to different well conditions, gas-oil ratio, water-oil ratio, formation pressure and the like.

Interpretation of Cards:

This topic affords room for considerable discussion. Whatever interpreta-

tion is made, however, should be carried out with a consideration of all accessory data, as much as from the card itself. Broadly, the interpretation of dynamometer cards falls into two general divisions.

1. Sight inspection, and
2. Interpretation based on mathematical deduction.

Much valuable information can be obtained from a simple sight inspection of a card. Many details, such as shocks caused by loose rigs and equipment, pounding fluid, etc., are perfectly obvious at a glance; but to derive fullest advantage from such inspection, considerable experience is necessary on the part of the operator, and his familiarity with the ideal pumping cycle, and the corresponding ideal card is essential. For this reason, a brief description of the ideal cycle is given.

Take for example a 4000-foot well with ¾-inch rods in 2½-inch tubing at 20 s. p. m. with a 54-inch stroke. Let us assume that the speed of rotation of the bandwheel is practically constant, imparting a perfect harmonic motion to the polished rod. Starting with the polished rod at the bottom of its stroke, as the crank moves forward from top center, the polished rod is moved upward. This upward impulse is transmitted down, through the string of rods to the plunger at the speed of sound, (about 16,000 feet per second for steel). In the example chosen, the crank will then have covered 30 degrees of arc from top center by the time the plunger starts to move upward. As the plunger starts up the traveling valves seat, and the weight of the column of fluid (either in whole or in part, depending on the type of pump), is transferred from the tubing to the rods. This load is transmitted back to the polished rod, the effect reaching there by the time that the crank has completed 60 degrees of arc. In the meantime, the polished rod travel is being accelerated by the motion of the crank, reaching a maximum when the crank is at 90 degrees from the top center, from which point, retardation takes place. The energy put into this acceleration is taken up in overcoming the inertie of the rods and fluid, and in additional stretch of the rods.

Between 90 degrees and 180 degrees (bottom center) of the crank position, the polished rod motion is retarded from a maximum to zero, which results in a release of load. Owing to the lag of impulse, however, and the contractile force of the rods, this release is actually felt at the polished rod when the crank has covered about 120 degrees or at about three-fourths of the way up the upstroke. From that point, to the top of the stroke, acceleration already imparted to the rods and fluid tends gradually to release the load on the polished rod. The force exerted by the contraction of the stretched rods tends to make this release far more gradual than it would otherwise have been.

As the polished rod starts its downstroke, the resultant force acting on it is the deadweight of the rods (in fluid),

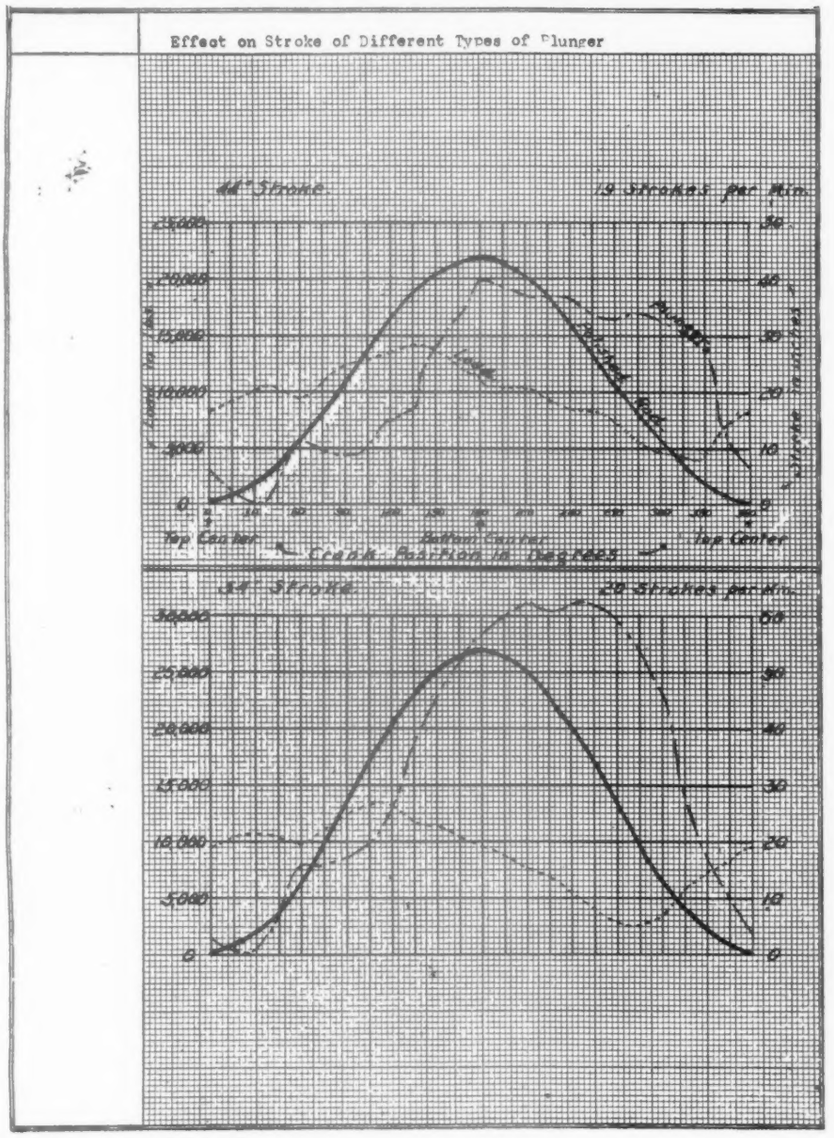


FIGURE 4.—*The upper diagram illustrates the condition with a "Hofco" cup assembly, while the lower shows the same well with a Fluid Packed Pump. It is unfortunate that the same length stroke could not be obtained for both types of pump, but owing to the condition of the crank and wrist pin, it was inexpedient to change the pin back to the third hole once it had been put in the fourth hole. The curves, however, demonstrate definite characteristics of stroke with tight and loose fitting plungers.*

Note that in the case of the tight fitting plunger, the down-stroke hardly becomes effective until the crank has reached a position of nearly 300 degrees from top center, while with the loose fit, the effective downstroke of the plunger begins at about 250 degrees (of discussion of theoretical ideal cycle). This results in smoother motion, and avoidance of the jerks which are so hard on equipment.

The production in both cases was the same: 35 barrels oil, 175 barrels water per day.

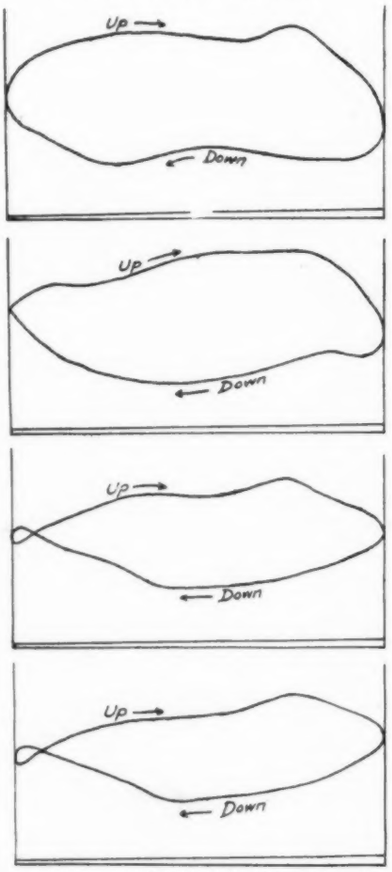
plus the contractile force of the rods, less the momentum of the rising mass, (fluid plus part of the string of rods). When the momentum is dissipated and counteracted, the plunger starts down, the traveling valve opens and the weight of the fluid is transferred from the rods to the tubing. The rods fall freely, with the load on the beam hanger decreasing until retarded movement is set up in the last quarter of the crank circle. The same delays in impulse occur as is in the upstroke, so that the minimum load is obtained at a crank position of 300 degrees from top center. From this point on, the load on the polished rod picks up to the point reached at the beginning of the upstroke. For the condition to be ideal, the speed should be so adjusted to the length of stroke that the resulting curve should be smooth, without sharp corners, reversals or sudden pick up. Figure 1 shows an ideal card representing such a cycle . In this analysis, no account has been taken of rod friction.

As examples of the possibilities of sight inspection, and comparison with the ideal card, Figure 2 (A) shows the effects of underbalancing, and Figure 3, the effects of loose equipment.

Where one is dealing with a straight hole, and new rods and tubing of which the sectional areas and moduli of elasticity are known, it is possible to calculate the effective length of stroke of the plunger with some degree of accuracy. In crooked holes, how-

FIGURE 5
EFFECT OF SPEED ON STROKE

2½-Inch Fluid Packed Pump—15-foot tubes
42-inch stroke in all cases.



1. 30 s.p.m.
Motor Speeds—890 r.p.m
870 r.p.m.
Loads in lbs.
Max. 13,650
Min. 3,650
Aver. 8,585

2. 24 s.p.m.
Motor Speeds—685 r.p.m.
655 r.p.m.
Loads in lbs.
Max. 12,700
Min 3,400
Aver. 8,180

3. 20 s.p.m.
Motor Speeds—575 r.p.m.
535 r.p.m.
Loads in lbs.
Max. 11,950
Min. 4,050
Aver. 8,025

4. 18 s.p.m.
Motor Speeds—535 r.p.m.
505 r.p.m.
Loads in lbs.
Max. 11,850
Min. 3,950
Aver. 7,945

Vertical Scale—all cards—8000 lbs. to the inch

FIGURE 5.—*In addition to showing the effects of different speeds on the pump cycle and loads with this type of pump, these cards also demonstrate the effects of overcounter-balancing. At the two slower speeds, the well was over counter-balanced, (Cards 3 and 4), which resulted in a slowing up of the speed at the top center of the crank. As the rods were falling, this was accompanied by an abnormal increase of load on the polished rod, which was released as the crank passed over top center, giving rise to the small loop at the bottom of the polished rod stroke. In an under-balanced condition, where a similar reduction of speed will be brought about by the peak load, loops are found at the other end of the stroke.*

ever, where excessive rod friction occurs, or where using old, worn out material, such calculations are questionable. Even in such cases, figures of comparative value in the same well are often obtainable. Figure 4, illustrates this point. The hole in question is certainly crooked, although no survey has been made. Rod friction accounts for possibly 2000 pounds of the load, so that it is unlikely that the plunger travel, as shown, indicates the true condition. But in the comparison of the two cards, definite characteristics of the plunger cycle were brought out, showing why the tight-fitting cup assembly was giving more rod trouble than the fluid packed pump.

The stretch of the sucker-rods can be calculated with a fair degree of accuracy. This can serve as an aid in spacing the pump correctly, and together with the loads from which it was determined, will show the proper size of rods to use.

A most important field for the dynamometer is in the data which it furnishes on the mechanical operation of surface equipment. The horsepower delivered at the polished rod can be determined by a simple formula. Taking the mean height of the card (best determined by the aid of a planimeter), as the mean effective force throughout the cycle, (f) we have:

$$HP = \frac{f\ l\ n}{396{,}000}$$

where "f" is in pounds, "l" is length of stroke in inches, and "n" is the number of strokes per minute.

This figure serves as a basis for the overall mechanical efficiency, (where input power to the prime mover can be indicated), it shows the size engine or motor required, and the power transmitted by belts, etc.

The loads themselves also show the tension on the belts at every point in the cycle.

Correct counterbalancing can also be approximated from the results of the dynamometer tests. The mean load through the cycle is obtained as follows:

Find the mean load throughout the upstroke by dividing the upstroke area by the length of the card, and translate to pounds, according to scale. Similarly find the mean load for the downstroke. The average of the two gives a theoretical counterbalance weight. This figure, however, is applicable only to a deadweight balance. Even there it will be found too high. The momentum of all rotating parts, from the bandwheel to the engine flywheels, acts as an effective counterbalance, and this effect must be subtracted from the weight first determined. Even then, from the very shape of the card, it is seen that the well will be seriously over balanced at points in the cycle, and underbalanced in other points. A rotary balance is far more ideal, in that it is more nearly possible to adjust it to exert the maximum effect at the proper points on the stroke. In making any computation for rotary balance, the radius of gyration as well as the mass of the counterbalance must be known. Its effect can then be determined for different speeds. Once an approximation of the weight of the counterbalance is obtained, final adjustments can best be made by experiment.

Results Obtained

Using the dynamometer as an auxiliary instrument, it is very difficult to cite any specific instance of increased production or avoidance of downtime due to the results of such tests alone. In some cases, production has been increased from five to 10 per cent by determining safe increase of stroke and speed, and down time has been reduced by adjusting the speed so as to be easier on equipment, and still maintain production. But by far, the greatest benefit derived from dynamometer tests so far, has been in pointing out the bad effects of inadequate equipment, and in assisting in replacing it with new equipment far better suited to the requirements of the problem.

In conclusion, it must be brought out that weighing wells is still in its infancy. Already, most of the major companies have found it worth while to undertake this sort of work, but considerable research must still be done before anyone can realize the fullest advantage possible with this instrument. In this connection, it would be an admirable achievement if the engineers of all companies interested in any field, could meet informally from time to time for the purpose of comparing data, and discussing their problems and results. In closing, however, I must repeat that the dynamometer is a very useful, in fact, invaluable aid to the engineer, but not itself a panacea for the pumping problem. Handled intelligently, it points the way to a rapid solution of many difficult problems, but, in all cases, the results depend solely on the man who is using it.

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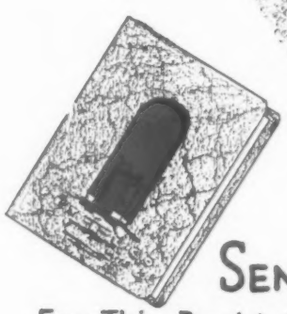
Recommendations for treatment of specific types of emulsions, together with complete data relative to the "Petreco" process will be submitted to any responsible oil company on request.



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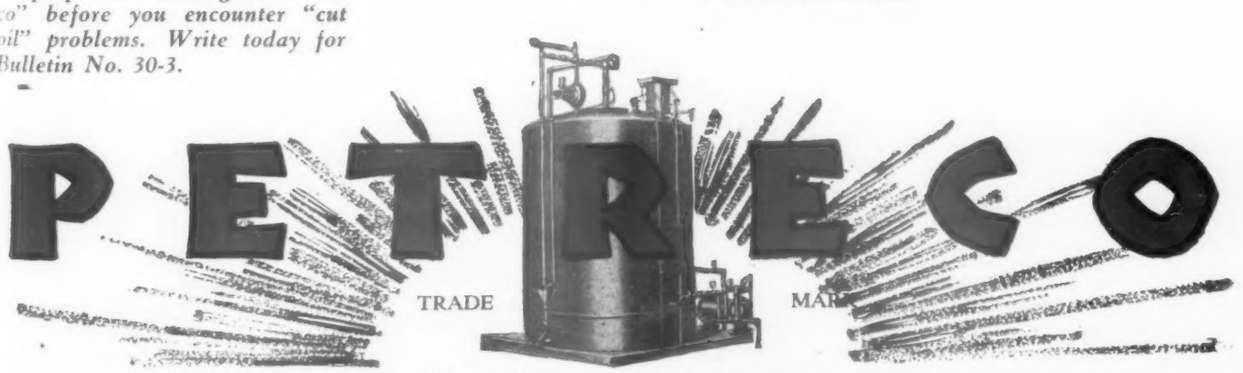


Fully covered by process and apparatus patents.

WORLD PETROLEUM IN REVIEW

London.—Royal Dutch Shell interests recently acquired control of the following European oil companies: Societe Belge des Carburants, Brussels, Societe Luxembourgoise des Carburants, Luxembourg; Societe Carroise des Carburants, Gersweiler, in the Saar district, and Societe Lorraine d'Entrepresage, Deidenhofen.

Brussels, Belgium.—A congress devoted to the use of charcoal and derivatives as motor fuel, will be held here in June under the patronage of the Societe Centrale Forestiere. In conjunction with the congress, an exhibition and competition for gas producers and carbonization ovens, will be held. Official representatives from several foreign governments are scheduled to attend.

Warsaw, Poland.—Despite assistance given the Polish petroleum industry by the Polish government during 1929, last year's production of oil declined approximately 9.17 per cent compared with 1928.

In the Drohobycz area, this decline amounted to 67,530 tons; the Jaslo area showed a decline of 2580 tons, and the Stanislaw area an increase of 2630 tons. Since the latter two practically cancel each other, it becomes apparent that the major decline of importance in Polish oil production occurred in the Drohobycz area, where the largest fields are situated.

In the Drohobycz area, the largest decline was registered in the Mayaznica section, which proved very disappointing to the hopes which had been built upon the development there. This decline amounted to 31,860 tons. The Boryslaw section declined 19,860 tons in oil production. And the remaining decline was registered in the Tustanowice section, with a decline of 14,780 tons.

Shallow oil production was opened up in the Mrayznica section by the Limanowa Company on March 16, 1930, when a well was brought in at depth of 482 metres. On deepening the well, oil rose in the casing and drilling was suspended. During the first 10 days of production, 155 tons of oil was recovered from this well, or an average of 17 tons daily.

Bucharest, Roumania.—Production of crude oil for March amounted to 480,000 tons against 430,000 tons in February. At the end of April, Roumanian production of oil averaged 16,000 tons daily, and is increasing daily. This increased production has been accomplished despite the losses caused by the fire at Moreni, which has been burning continuously for 11 months, and which has held up much new development in the neighborhood.

Mexico City, Mexico.—President Rubio has issued a decree authorizing the organization by the Ministry of Industry, Commerce and Labor, of a National Petroleum Investigation Commission, in an effort to stimulate the industry in Mexico.

This commission is to make an intensive study of the condition of the petroleum industry in Mexico particularly with a view to discovering the reason for the declining production, and to receive the complaints of oil companies with a view to an impartial study of their respective merits. The commission will also study the advisability of amending the petroleum laws and existing petroleum legislation.

Mexico City, Mexico.—A. E. Watts, vice president of Sinclair Consolidated Oil Corporation and president of Mexican Sinclair Petroleum Corporation, who has just completed an inspection of company properties in the republic, says that Mexican Sinclair Oil Corporation will extend its development in Mexico when the government grants application for concessions. He further stated that in his opinion, Mexico would once again attain second place in world crude production should encouragement be given by the government.

Crude oil production in the Tuspan and Panuca districts amounted to 585,000 barrels, a daily average of 84,000 barrels, as of March 29. Light oil production average 41,000 barrels daily and heavy oil 43,000 barrels.

Buenos Ayres, Argentina.—The government of Argentina has issued a decree providing for the creation of an 'Institute of Oil,' the object of which is to provide technical instruction to civil and industrial engineers who desire to specialize in oil production and the industries derived therefrom. This Institute of Oil will be founded by the Yacimientos Petroliferos Fiscales in collaboration with the University of Buenos Ayres.

Rio de Janerio, Brazil.—The government of the State of Sao Paulo has begun to drill a test for oil near Boa Esperanca.

Brazil has but negligible known petroleum resources, importing most of its oil requirements from the United States. Imports of oil fuel have increased from 66,000 barrels in 1913 to 1,603,000 in 1920, and from that to 2,372,000 in 1928. Of this amount about 44 per cent comes from the United States.

A Brazilian company is attempting to produce gasoline from natural gas wells in Sao Paulo.

Managua, Nicaragua.—Standard Oil Company of Nicaragua, recently formed at San Francisco, California, is making preparations to drill for oil near San Rafael del Sur. Other companies are also contemplating drilling in Nicaragua and have sent geologists ahead to make investigations in the neighborhood of Rivas, which is west of Lake Nicaragua.

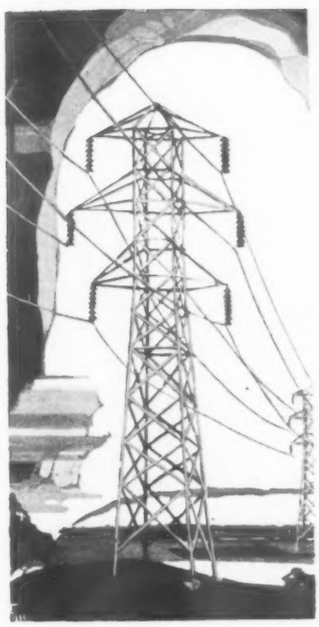
Rabat, Morocco.—The Sherefian government has issued recent Dahirs providing for the extension of the safety zone in several regions, namely, in the Kassioua and Bir Narka district and in the Agadir region. These Dahirs also specify that these lands will be open to mining research beginning May 5, 1930. A second Dahir suspends the delivery of research permits in the Matarka and other regions.

Sydney, Australia.—The directors of Oil Search, Ltd., which was organized in Australia to prospect for oil in the commonwealth and territories, have announced allotment of 100,000 shares on application. A geological survey of the Wooramel river area, West Australia, is to be undertaken by the company in accordance with recommendations of Dr. W. G. Woolnough, geological adviser to the federal government.

The survey is being conducted by a staff led by Mr. Hobson, and recommended by West Australia State Geologist Blatchford. Steps are being taken to drill further at Matapau, in mandated territory. At present the test is below 1100 feet, and samples of gas already appearing are being submitted for examination.

Oil Search, Ltd., has an option over a large number of shares in Longreach Oil Wells, Ltd., the company owning the permit. Arrangements are being completed for units of the company to proceed with geological surveys over portions of the extensive areas covered by oil prospecting permits or options in possession of Oil Search, Ltd.

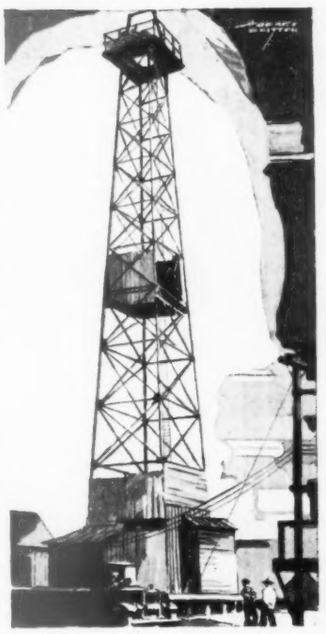
Brothers Under the Skin



Side by side, a transmission tower and an oil derrick. One is bright and shining, washed by the rains and dried by the sunshine. The other is black and grimy with its days of service. They are brothers under the skin; both deal with mighty forces.

• • •

The transmission tower carries in a day's time power equal to the man power of an army of one hundred thousand men. The oil derrick supports a string of tools . . . . steel pipe and drilling tools . . . . ofttimes more than a mile long.



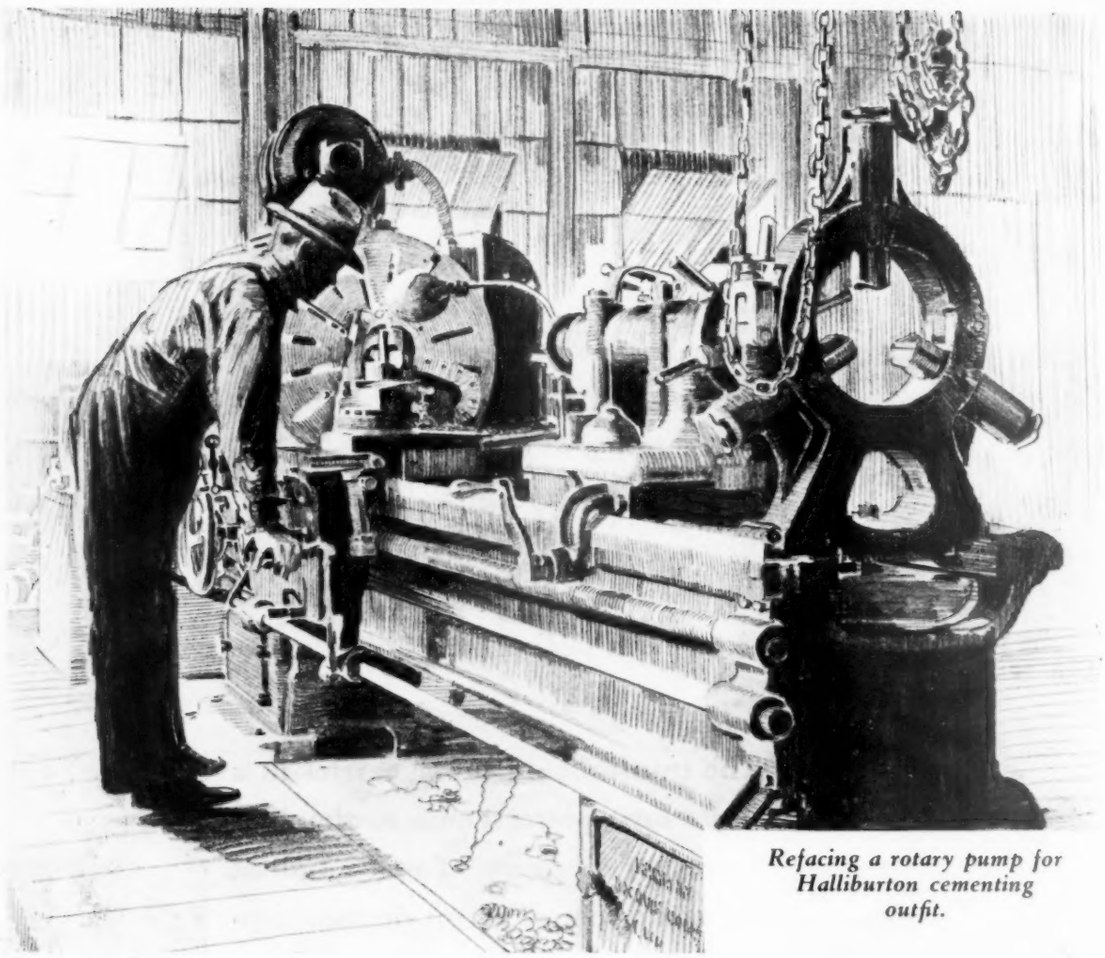
• • •

The two giants have an increasing respect and admiration for each other. Each is a symbol of a gigantic industry. Each is in the forefront of advanced progress. It is no wonder that working together they accomplish so much.

GULF STATES
UTILITIES COMPANY

General Offices

BEAUMONT, TEXAS **LAKE CHARLES, LA.**



Refacing a rotary pump for Halliburton cementing outfit.

Everyone associated with oil production is familiar with the big red Halliburton trucks —the "inaccessible" places Halliburton men have reached, the "impossible" jobs they have done, the dispatch that characterizes their work.

Only a comparative few, however, realize the intensive and expensive activity that goes on "behind the scenes" in the Halliburton organization—the research that is constantly undertaken to provide the industry with the highest form of cementing protection; the care that is exercised to keep Halliburton equipment in the best possible condition.

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Duncan, Oklahoma

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Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

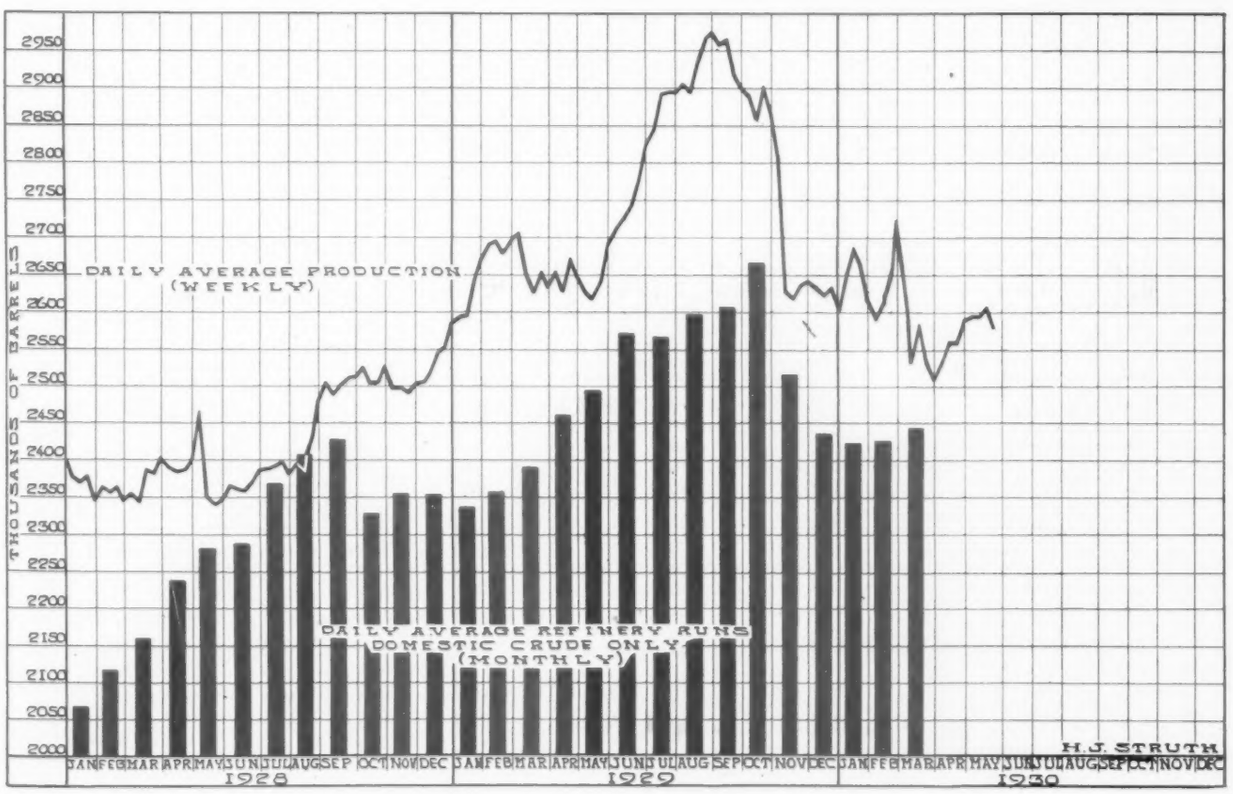
Low Prices and High Water Retard Production

WHILE there was a total decline in daily average crude oil production last week of 28,400 barrels, bringing the national total down to 2,579,400 barrels, about half of the decline was brought about by high water in Arkansas and Northern Louisiana. The balance of the decline was practically all credited to California, and is believed to reflect the action of major purchasers in slashing the crude market at Santa Fe Springs recently. A decline of 13,400 barrels in daily production of California, of which 12,000 barrels is credited to Santa Fe Springs, proved somewhat encouraging to the industry.

Santa Fe Springs is, however, still out of line with the curtailment scheme and there is no hope for a restoration of the former posted price until production is brought down to the allowable. The small group of holdouts refuse to come into the fold and offer no promise of swinging into line. There is a chance for still lower posted prices in this field before a turn for the better is noted. All operators except those who have refused to curtail from the beginning have agreed to continue holding their output to the allowable. The excess will be distributed over other flush fields. Local differences over field practices may eventually lead to more serious consequences. Some of the companies which are producing exactly their allowables are shutting in their smaller inside wells and flowing line wells at a maximum rate. This will get them "under the wire" but it is morally wrong and offsetting companies don't like the practice.

Disposition of the huge stocks carried in California is worrying the industry—or at least that portion which is carrying the stocks. The major companies are greatly alarmed over continued overproduction because it endangers their capital assets in the form of stocks. The day-to-day producer would like to see the

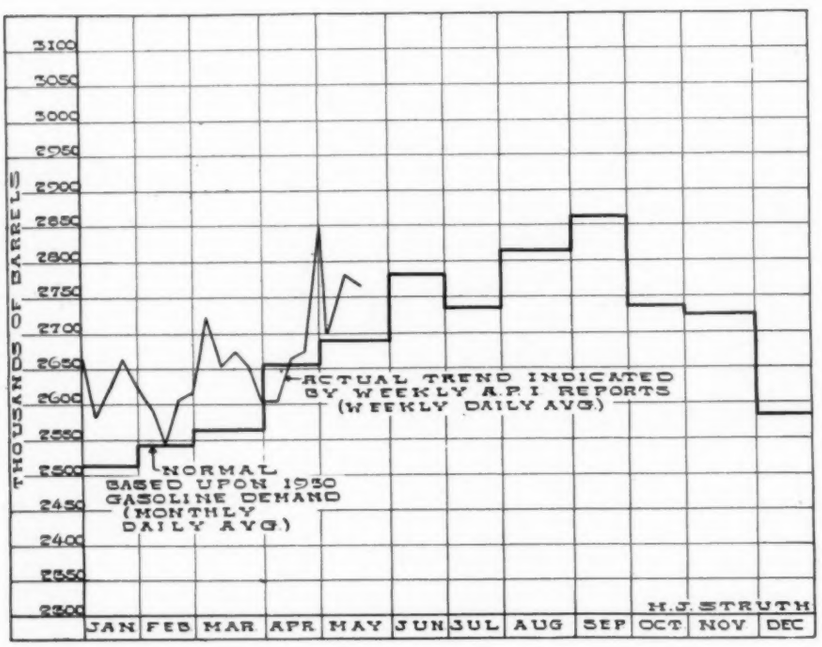
DOMESTIC PRODUCTION AND REFINERY RUNS



HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 2nd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending May 24, 1930	Excess
Arkansas	69,879	69,879	44,900	—24,979
California	669,791	602,566	618,700	16,134
Kansas	116,044	111,552	133,150	21,598
Louisiana	58,011	50,503	61,050	10,547
Oklahoma	*630,150	*627,369	660,550	33,181
Texas	*825,508	*783,701	838,600	54,899
Balance of U. S.	235,945	235,945	222,550	—13,395
Total	2,605,328	2,481,505	2,579,500	97,995

*Revised.



largest production possible without weakening the market, while the major company having a large amount in storage is pulling for a small production so that great inroads can be made into stocks. This will allow him to liquidate surplus stocks and prevent inventory losses. It will be only through reduction in stocks that the price structure can be maintained, a process which should benefit both the major company and the current purchaser.

The state potential is being carried at 1,100,000 barrels, but this figure probably is far too high. There are some advantages to be gained by carrying the potential too high, but failure of all fields to reach their supposed maximums on actual tests would weaken the curtailment structure. The peak has been passed and the potential is definitely on the down side, Santa Fe Springs alone having accounted for a drop of more than 100,000 barrels since February 1.

The new state allowable of 596,000 barrels should bring about a substantial reduction in stocks. Other fields are having to absorb surpluses in districts that are not hewing to the line, but state production is still considerably above the new allotted output.

Stocks Lower in April

A reduction of 1,777,619 barrels in California stocks during April was a favorable development and proves that adherence to the conservation program will bring results. Total stocks now stand at 187,192,759 barrels, of which 112,198,691 barrels is heavy oil, 44,475,703 barrels light oil, 18,046,275 barrels gasoline, 3,832,736 barrels naphtha distillates and 8,639,354 barrels other products.

The gasoline market has shown little improvement, especially in the retail end. Gasoline for export shipment is moving at about 6½ cents. Service stations are retailing gasoline at 14½ cents to 19½ cents, with the majors holding to the top figure. The ragged appearance of the

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING MAY 17, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	605,700	605,700	100.0	3,294,000	470,600	77.7	9,090,000	7,048,000
Appalachian	128,100	114,100	89.1	665,000	95,000	83.3	1,783,000	823,000
Indiana, Illinois, Kentucky	378,000	376,000	99.5	2,217,000	316,700	84.2	8,513,000	3,426,000
Oklahoma, Kansas, Missouri	462,200	415,200	89.8	2,180,000	311,400	75.0	4,536,000	4,164,000
Texas	788,000	715,700	90.8	4,447,000	635,300	88.8	7,940,000	10,482,000
Louisiana-Arkansas	270,600	262,000	96.8	1,218,000	174,000	66.4	2,541,000	1,878,000
Rocky Mountain	148,900	139,300	93.6	448,000	64,000	45.9	2,800,000	1,102,000
California	897,400	891,400	99.3	4,051,000	578,700	64.9	16,117,000	108,081,000
Total week May 17	3,678,900	3,519,400	95.7	18,520,000	2,645,700	75.2	53,320,000	137,004,000
Total week May 10	3,678,900	3,515,900	95.6	18,622,000	2,660,300	75.7	53,203,000	136,949,000
The Texas and Louisiana Gulf Coastal figures shown below are included in the totals of their respective districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,318,000	474,000	90.0	6,814,000	7,678,000
Louisiana Gulf Coast	147,500	147,500	100.0	834,000	119,100	80.7	2,149,000	1,014,000

FIELD STATISTICS OF IMPORTANT DISTRICTS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS:								
Ector County	28	22,405	800	27	13,855	513[1]	.	28
Hendrick	622	3,117,345	5,012	567	74,435	131[1]	.	2
Church & Fields	218	216,005	991	211	19,980	95	4	1
Gulf-McElroy	86	62,365	725	84	13,995	167	3	2
Yates	386	2,520,385	6,529	374	114,120	305[1]	5	8
TEXAS PANHANDLE:								
Gray County	607	455,830	751	582	72,945	125	22	55
OKLAHOMA:								
Oklahoma City	199	1,789,430	9,037	63	162,215	2,574	91	218
CALIFORNIA:								
Santa Fe Springs[2]	644	1,651,570	2,564	313	110,000	351	8	45

[1]Production partially pinched.
[2]Includes deep zone production only. For field total add 85 wells and 9,500 barrels.

market indicates that lower prices are probable.

High water in Arkansas and Northern Louisiana has seriously flooded a great many oil and gas wells there, as a result of which oil production has shown a sharp decline. Particularly in the Smackover area, losses have been severe and have materially retarded production. Aside from the sharp decline in production of Arkansas and California, the week offered little encouragement in the direction of further needed curtailment. Texas, outside of the Gulf Coast, North Louisiana, Arkansas, Eastern states and California recorded declines while Oklahoma, Kansas and Rocky Mountain states registered increased production.

Advices from Tulsa state that Ray M. Collins, state oil umpire, has asked pipe line companies to limit daily crude runs in the Konowa pool to 14,000 barrels daily during the remainder of May and all of June. There are now 51 producing wells in this area with an aggregate daily output of 19,350 barrels.

Mid-Continent Situation Worse

Market conditions in the Mid-Continent present a picture of both crude oil and gasoline being increased against a season, which is lagging in consumption. The crude production curve for Oklahoma and Kansas carries an upward turn, while refiners have for the first half of May put more than 500,000 gallons of gasoline in storage.

The opinion is common that normal consumption will overcome the mounting stocks. But the normal season is not at hand as contemplated. Rains and cool weather are charged with the slow movement of gasoline. Undoubtedly the weather has played the major role in forcing 500,000 gallons of gasoline into storage.

There is no secret to the fear that producers hold as to the crude quotations schedule. With conditions outside the Mid-Continent weakened and conditions within not healthy, there is apprehension. But there is both hope and reasoning to the effect that crude oil prices will hold

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended May 17		Week Ended May 10
AT ATLANTIC COAST PORTS—			
Baltimore	239,000		80,000
Boston	.....		157,000
New York	1,443,000		1,108,000
Philadelphia	265,000		205,000
Others	.....	"A"	299,000
Total	1,947,000		1,849,000
Daily Average	278,143		264,143
AT GULF COAST PORTS—			
Galveston District	79,000		50,000
New Orleans and Baton Rouge	227,000		30,000
Port Arthur and Sabine District	.....		.....
Tampa	.....		.....
Total	306,000		82,000
Daily Average	43,714		11,714
AT ALL UNITED STATES PORTS—			
Total	2,253,000	"A"	1,931,000
Daily Average	321,857		275,857
Daily Average Four Weeks Ended	287,392	"A"	270,893
Distribution of Total Imports Is As Follows:			
Crude	1,619,000		1,167,000
Gasoline	323,000	"A"	541,000
Gas Oil	61,000		43,000
Fuel Oil	250,000		180,000
Total	2,253,000		1,931,000

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended May 17	Week Ended May 10
AT ATLANTIC COAST PORTS—		
Baltimore	.....	49,000
Boston	167,000	.....
New York	445,000	76,000
Philadelphia	.....	114,000
Others	.....	.....
Total	612,000	239,000
Daily Average	87,429	34,143
AT GULF COAST PORTS—		
Total	.....	24,000
Daily Average	.....	3,428
AT ATLANTIC AND GULF COAST PORTS—		
Total	612,000	263,000
Daily Average	87,429	37,571
Daily Average Four Weeks Ended	65,500	50,607
Distribution of Total California Receipts Is As Follows:		
Gasoline	455,000	263,000
Gas Oil	62,000	.....
Fuel Oil	95,000	.....
Total	612,000	263,000

"A"—Revised.

Weekly Comparisons of Permits Granted for New Wells

State—	Week Ending May 24	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	3	4	2	11	5	48	51	159
California	25	12	25	68	83	309	560	1,231
Louisiana	22	34	13	94	46	447	311	903
Kansas	45	30	17	113	112	433	395	1,079
Oklahoma	85	69	47	319	266	1,306	1,243	3,578
Texas	174	173	156	736	678	3,222	3,290	8,697
Total	354	322	260	1,341	1,190	5,765	5,850	15,647

throughout the summer. All the reasoning along this line is tinged with the trust of better weather, which will start the movement of gasoline at normal speed.

There is a liberal movement of crude oil from the Seminole area, where pipe line runs are more than well consumption. Some tanks are being emptied. While this looks good to the first glance at storage figures, it bears a warning for the future, for it is certain that some of the concerns, which are now emptying Seminole storage, will be ready for any break in prices. Seminole storage is near the Oklahoma City pool and close students of conditions are convinced that Oklahoma City oil will within a year fill these tanks and that prices paid will be lower than the present market.

Oklahoma City is the danger point for the whole Mid-Continent. Producers, who are in accord on the present proration program, are chafing under the necessity of taking only one-sixth of potential from their leases. They will have another chance to get pipe line concerns to increase runs when committees meet May 29. But there seems little hope for any change.

What Oklahoma City producers fear is the consequence of completions from town-lot drilling in the north end of the field. Many of these wells are being put down by one-well concerns and individuals. While there will be no pipe line outlet for this oil, there is apprehension over the possibility that this oil will be offered under the market price for shipment by tank cars.

The situation in Texas continues at about the same level, with slight declines being recorded in production. The report of the Texas Railroad Commission shows that 348 oil wells and 25 gas wells were completed in this state during April. This represents a decline of 47 oil wells and 22 gas wells compared with March. The number of wells drilled in Texas during the first four months of this year amounted to 1450 oil wells and 178 gas wells, during which time 8121 drilling permits were issued. From the number of permits issued, it is apparent that little effort is being made to curtail new developments and extensions.

Storage Oil Increasing

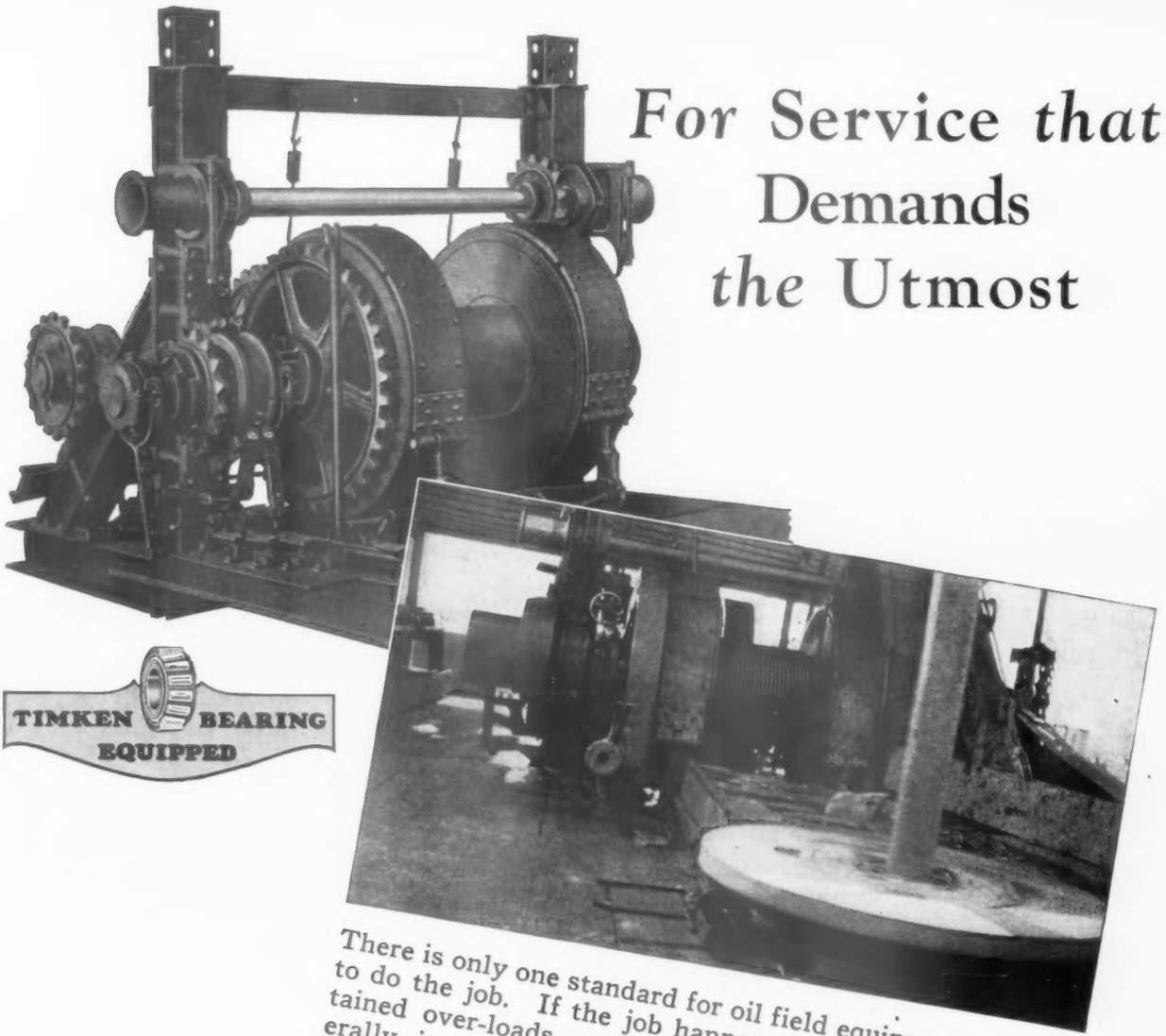
Analysis of indicated demand for crude in the various major producing states, compared with current production, shows that a considerable amount of oil is going into storage at this time. For example, Oklahoma and Kansas are piling up crude stocks at the rate of about 47,000 barrels a day, while Texas is storing about 13,000 barrels a day and Louisiana about 3000 barrels a day. California, as indicated by the latest Pacific Coast report of the A. P. I. is drawing upon stocks to the extent of about 50,000 barrels daily. While this is an encouraging sign, it is evident that California production must be reduced further in order to bring about the degree of stock withdrawals necessary to a fair state of equilibrium. As shown by the accompanying table, it will be necessary for the industry as a whole to reduce crude production nearly 100,000 barrels daily in order to effect a real balance between supply and demand. A special article, appearing elsewhere in this issue, calls attention to the fact that market conditions in the Mid-Continent area have undergone a decided change that has made necessary the corrections shown in the accompanying table for Oklahoma and Texas. A check of the situation in Oklahoma shows, unquestionably, that crude is going into storage there at the rate of about 30,000 barrels daily.

Pipe line and tank farm stocks of domestic crude, east of the Rocky Mountains, decreased 1,879,000 barrels during

(Continued on Page 60)

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last Week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	2	1	2	1	..	..	..	..	75	12
California	17	13	17	12	..	..	..	1	5,065	10,485
Illinois	3	5	1	3	..	..	2	2	80	44
Indiana	7	6	2	4	1	1	4	1	85	87
Kansas	36	13	16	5	8	3	12	5	6,540	2,295
Kentucky	18	20	9	10	..	3	9	7	275	326
Louisiana	25	18	8	8	7	2	11	8	7,018	685
Michigan	11	..	3	..	..	..	8	..	650	...
Mississippi	2	..	..	..	..	..	2	..	..	..
New York	9	13	9	13	..	..	..	..	36	81
Ohio	17	37	14	9	1	11	2	17	581	379
Oklahoma	76	70	50	43	8	3	18	24	91,075	63,922
Pennsylvania	50	56	44	46	4	4	2	6	129	367
Texas	114	131	61	75	7	8	46	48	33,594	75,017
West Virginia	10	19	2	5	6	11	2	3	22	70
Total	398	402	238	234	42	46	118	122	145,225	153,770
Increase this week	..	..	4	..	..	..	..	..	...	...
Decrease this week	4	..	..	..	4	..	4	..	8,545	...



For Service *that* Demands *the* Utmost

TIMKEN BEARING EQUIPPED

There is only one standard for oil field equipment—ability to do the job. If the job happens to include heavy, sustained over-loads, emergency peak loads or abuse generally, it makes no difference. They are merely part of the day's work.

Consequently, equipment must incorporate the best in materials, construction and design in every detail. Acting on this policy, The Lucey Manufacturing Corporation, Chattanooga, Tenn., have settled one of the most vexing problems in design by equipping both its draw works and rotary tables with Timken Bearings. There is no doubt as to their ability to meet any demands made upon them.

That has been proved time and time again in actual cases where the Timken combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken-made steel have met and overcome apparently unendurable conditions.

THE TIMKEN ROLLER BEARING CO., CANTON, O.

TIMKEN *Tapered Roller* **BEARINGS**

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July	722,050	124,250	718,950	148,150	35,750	68,650	122,000	74,250	874,850	2,888,900	89,555,250
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April*	657,450	121,950	639,750	207,150	42,250	57,750	138,900	75,600	625,400	2,566,200	76,988,700
May 3	658,800	125,450	661,200	201,100	40,900	58,050	139,400	77,200	633,100	2,595,200	18,166,400
May 10	653,350	127,150	663,250	205,150	41,150	57,050	138,200	74,250	634,800	2,595,150	18,166,050
May 17	660,150	131,400	659,750	204,500	41,000	57,600	136,950	84,450	632,100	2,607,900	18,255,300
May 24	660,500	133,150	658,250	201,400	40,000	44,900	136,100	86,500	618,700	2,579,500	18,056,500
Increase	350	1,750	.....	.....	....	....	.....	2,050	.....	.....	.....
Decrease	.....	.....	1,500	3,100	1,000	12,700	850	....	13,400	28,400	198,800

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	May 24	May 17
Carson County	9,300	8,650
Gray County	72,800	70,850
Hutchinson County	23,300	22,900
Wheeler County	700	600
Others	500	500
Total	106,600	103,500

NORTH TEXAS

Archer County	19,300	19,000
Burkburnett	8,400	8,300
Electra	11,300	11,200
Iowa Park-KMA	5,800	5,800
Montague and Cooke Cos.	10,400	10,400
Wilbarger	24,450	24,200
Others	2,000	2,000
Total	81,650	80,900

WEST CENTRAL TEXAS

Brown County	6,850	7,500
Callahan County	4,000	4,000
Coleman County	4,200	4,100
Eastland-Desdemona	5,900	5,500
Jack County	3,800	3,850
Palo Pinto County	650	600
Shackelford County	6,700	6,550
Stephens County	6,100	6,050
Throckmorton County	1,100	1,000
Young County	17,500	19,200
Others	1,200	1,000
Total	58,000	59,350

WEST TEXAS

Ector	13,900	13,400
Crane-Upton Counties	42,600	43,200
Crockett County	2,100	2,050
Howard County	35,650	36,100
Jones County	1,400	1,300
Mitchell-Scurry Cos.	2,400	2,350
Yates	113,900	113,800
Pecos County	4,000	4,000
Reagan County	16,300	16,400
Winkler County	70,900	75,200
Others	2,800	2,750
Total	305,950	310,550

EAST CENTRAL TEXAS

Boggy Creek	3,050	3,501
Corsicana-Powell	5,900	6,000
Currie	250	300
Mexia	4,350	4,200
Nigger Creek	200	200
Richland	200	250
Wortham	850	900
Van Zandt	21,600	24,700
Total	36,400	40,050

SOUTHWEST TEXAS

Darst Creek	27,000	22,000
Dale	300	300
Laredo District	8,000	8,100
Luling	9,250	9,400
Lytton Springs	800	800
Somerset	1,200	1,200
Salt Flat	21,500	21,900
Others	1,600	1,700
Total	69,650	65,400
T'tl Tex. (outside Gulf Coast)	658,250	659,750

TEXAS GULF COAST

Esperson	2,100	3,000
Barbers Hill	20,000	18,050
Batson	1,100	1,100
Big Creek	3,900	4,250
Blue Ridge	1,800	1,900
Boling	1,050	1,100
Damon Mound	600	600
Goose Creek	4,400	4,300
Hull	10,200	10,650
Humble	18,200	18,000
Orange County	1,900	2,350
Pettus	3,700	3,100
Pierce Junction	9,500	9,650
Refugio	37,400	39,600
Raccoon Bend	12,000	12,050
Saratoga	1,100	1,050
Sour Lake	2,350	2,350
South Liberty	4,400	4,300
Spindle Top	15,550	15,900
Sugar Land	12,100	12,200
West Columbia	5,400	5,550
Washington County	1,700	1,600
Fannett	1,100	1,050
Port Neches	1,650	1,700
North Dayton	350	500
Others	6,800	6,700
Total	180,350	182,600
Texas Total	838,600	842,350

OKLAHOMA

Asher	2,000	2,100
Carr City	7,650	11,100
Logan County	5,900	6,000
Braman	3,500	3,450
Blackwell	3,400	3,700
Hubbard	1,600	1,600
Thomas	750	650
Tonkawa	7,250	7,800
Garber	4,600	4,750
Burbank	16,450	16,350
Osage (outside Burbank)	26,100	26,100
Cushing	13,900	13,900
Yale Jennings	8,150	8,600
Davenport	1,200	1,200
Bristow Slick	15,900	16,000
North Okmulgee	10,250	10,450
South Okmulgee	6,250	6,250
Cromwell	7,600	7,600
Papoose	2,800	2,850
Wewoka	3,650	3,700
Seminole	22,150	16,500
East Seminole	3,300	2,950
Bowlegs	21,700	13,300
Searight	11,650	12,300
Little River	37,800	28,900
East Little River	18,500	15,500
Earlsboro	37,550	44,950
East Earlsboro	31,050	34,550
Duncan District	8,300	7,700
Graham	3,550	3,500
Fox	1,150	1,250
Healdton	11,900	11,900
Hewitt	7,000	7,000
Scholem Alechem	13,400	13,600
Pearson	600	900
St. Louis	35,250	45,000
Allen	20,600	16,450
Maud	4,850	6,450
Mission	9,350	15,950
Oklahoma City	114,950	114,800
Sasakwa	9,950	9,850
Konowa	19,350	15,800
Others	67,700	66,900
Total	660,500	660,150

CALIFORNIA

Santa Fe Springs	117,000	129,000
Long Beach	97,000	99,500
Huntington Beach	28,600	28,300
Dominguez	10,400	10,400
Inglewood	17,200	17,200
Midway-Sunset	65,500	67,000
Ventura Avenue	49,000	51,200
Seal Beach	22,700	23,900
Elwood-Goleta	47,000	44,900
Kettleman Hills	15,300	15,700
Others	149,000	145,000
Total	618,700	632,100

KANSAS

Greenwood County	20,500	19,000
Florence-Covert	800	800
Peabody-Ebling	3,200	3,100
Eldorado-Towanda	14,100	14,350
Augusta-Fox Bush	3,000	2,950
Rainbow Bend	1,050	1,050
Russell	3,500	3,500
Churchill	4,050	4,200
Oxford	2,900	2,900
Sedgwick	18,950	19,900
Voshell	23,100	22,150
Others	38,000	37,500
Total	133,150	131,400

NORTH LOUISIANA

	May 24	May 17
Homer	3,600	3,600
Haynesville	4,600	4,600
Caddo Light	9,550	9,650
Caddo Heavy	2,850	2,900
DeSoto-Red River	3,200	3,100
Holly	750	750
Carterville	3,250	3,300
Cotton Valley	2,200	2,200
Urania	5,050	5,400
Zwolle	3,250	3,800
Others	1,700	1,700
Total North Louisiana	40,000	41,000

LOUISIANA GULF COAST

Lake Barre	800	800
Port Barre	2,000	2,300
Bayou Boullion	200	100
East Hackberry	1,900	2,100
Hackberry	1,300	1,400
Edgerly	600	550
Evangeline	800	800
Lockport	2,400	2,800
Sorrento	150	200
Sulphur Dome	5,000	5,700
Sweet Lake	100	100
Vinton	4,100	3,700
Others	1,700	1,350
Total Louisiana Gulf Coast	21,050	21,900
Louisiana Total	61,050	62,900

ARKANSAS

El Dorado	4,050	4,050
Champagnolle	3,850	3,900
Smackover Light	4,400	5,300
Smackover Heavy	29,150	40,250
Stephens	950	950
Nevada	950	950
Lisbon	1,000	1,000
Others	550	1,200
Total	44,900	57,600

MOUNTAIN STATES
WYOMING

Salt Creek	29,450	30,950
Grass Creek	2,500	2,100
Elk Basin	800	850
Big Muddy	2,050	2,100
Lost Soldier	3,050	2,800
Rock River	2,100	2,150
Lance Creek	150	150
Oregon Basin	4,700	4,700
La Barge	2,000	1,850
Others	4,800	5,300
Total	51,600	52,950

MONTANA

Cat Creek	1,150	1,300
Sunburst	5,600	5,600
Pondera	2,500	2,300
Others	100	100
Total	9,350	9,300

COLORADO

Moffats (Craig)	1,000	850
Fort Collins	1,350	1,450
Florence	600	550
Others	1,550	1,450
Total	4,500	4,300

NEW MEXICO

Table Mesa	100	100
Artesia	750	750
Hogback	350	450
Rattlesnake	1,150	450
Bal. Lea & Eddy Counties	17,800	15,250
Others	900	900
Totals	21,050	17,900
Total Mountain States	86,500	84,450

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	125,200	126,000
Michigan	10,900	10,950
Total Eastern States	136,100	136,950

PRODUCTION SUMMARY

East of Rockies	1,874,300	1,891,350
Total U. S.	2,579,500	2,607,900

CRUDE OIL PRICE QUOTATIONS

(Revised to May 27)

CHANGES

Effective May 16, Joseph Seep Purchasing Agency reduced all grades of Pennsylvania crude 25 cents a barrel. Announcement was also made to the effect that postings would be discontinued on Bradford and New York Transit crude.

Effective May 17, Standard Oil Company of California reduced Santa Fe Springs crude from 75 to 90 cents a barrel, making 21 to 27.9 gravity 50 cents and 35 and above 95 cents a barrel.

EASTERN STATES

(Effective May 16, 1930)

Penn Grade Oil in National Transit Lines (Pennsylvania)	2.30
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.25
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.95
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.55
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.37
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

CENTRAL STATES

(Effective April 11, 1930)
Posted by Ohio Oil Co.

Illinois	$1.65
Indiana	1.47
Lima	1.70
Plymouth	1.23
Princeton	1.65
Wooster	1.80

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .70
25 to 25.9 gravity	.70
26 to 26.9 gravity	.76
27 to 27.9 gravity	.82
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.96
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34.9 gravity	1.005
35 to 35.9 gravity	.104
36 to 36.9 gravity	1.075
37 to 37.9 gravity	.111
38 to 38.9 gravity	1.145
39 to 39.9 gravity	.118
40 to 40.9 gravity	1.215
41 to 41.9 gravity	.125
42 to 42.9 gravity	1.285
43 to 43.9 gravity	.132
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89
33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

(EFFECTIVE MAY 17, 1930)

Following are the current prices offered by Standard Oil Company for crude oil at the wells: (Price per barrel of 42 gallons in fields indicated).

Gravity	Ventura*	Signal Hill	Alamitos Heights Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .55	$ .55	$ .55	$ .55	$ .55	$ .55
15-15.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
16-16.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
17-17.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
18-18.9	.75	.76	.76	.76	.76	.76	..	..	.76	.76	.76	.71	.76	..	.55	.62	.62	.62	.62	.62
19-19.9	.80	.82	.82	.82	.82	.82	..	..	.82	.82	.82	.77	.82	..	.55	.70	.70	.70	.70	.70
20-20.9	.85	.88	.88	.88	.88	.88	..	..	.88	.88	.87	.83	.87	..	..	.78	.78	.78	.78	.78
21-21.9	.90	.94	.94	.94	.94	.94	..	..	.94	.94	.93	.90	.93	.50	..	.86	.86	.86	.86	.86
22-22.9	.97	1.00	1.00	1.00	1.00	1.00	..	..	1.00	1.00	.98	.97	.98	.50	..	.94	.94	.94	.94	.94
23-23.9	1.05	1.07	1.07	1.07	1.07	1.07	..	..	1.07	1.07	..	1.05	1.04	.50	..	1.02	1.02	1.02	1.02	1.02
24-24.9	1.08	1.14	1.14	1.14	1.14	1.14	1.14	..	1.14	1.14	..	1.11	1.10	.50	..	1.09	1.09	1.09	1.07	1.07
25-25.9	1.13	1.21	1.21	1.21	1.21	1.21	1.19	..	1.21	1.21	..	1.17	1.16	.50	..	1.16	1.16	1.16	1.12	1.12
26-26.9	1.18	1.28	1.28	1.28	1.28	1.28	1.24	..	1.28	1.28	..	1.23	1.23	.50	..	1.23	1.23	1.23	1.17	1.17
27-27.9	1.23	1.35	1.35	1.35	1.35	1.35	1.29	..	1.35	1.35	..	1.29	1.30	.50	..	1.30	1.30	1.30	1.23	1.22
28-28.9	1.28	1.42	1.42	1.42	1.42	1.42	1.34	..	1.42	1.42	..	1.35	1.37	.56	..	1.35	1.35	1.35	1.27	..
29-29.9	1.33	1.46	1.46	1.46	..	1.46	1.39	..	..	1.46	..	1.38	1.41	.62	..	1.41	1.41	1.41	1.31	..
30-30.9	1.39	1.50	1.50	1.50	..	1.50	1.45	..	..	1.50	..	1.41	1.45	.68	..	1.47	1.47	1.47	1.35	..
31-31.9	1.45	1.55	1.55	1.55	..	1.55	1.51	..	..	..	..	..	..	.74	..	1.53	1.53	1.53	1.39	..
32-32.9	1.51	1.60	1.60	1.60	..	..	1.57	..	..	..	..	..	..	.80	..	1.59	1.59	1.59	1.43	..
33-33.9	1.58	..	..	..	..	..	1.64	..	..	..	..	..	..	.85	..	1.65	1.65	1.65	1.47	..
34-34.9	..	..	..	..	..	..	1.71	1.32	..	..	..	..	..	.90	..	..	..	1.71	1.51	..
35-35.9	..	..	..	..	..	..	1.78	1.39	..	..	..	..	..	.95	..	..	..	1.77	1.55	..
36-36.9	..	..	..	..	..	..	1.84	1.46	..	..	..	..	..	.95	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.90	1.53	..	..	..	..	..	.95	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.96	1.60	..	..	..	..	..	.95	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	2.02	1.66	..	..	..	..	..	.95	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	2.08	1.72	..											
41-41.9	..	..	..	..	..	..	2.14	1.78	..											
42-42.9	..	..	..	..	..	..	2.20	1.84	..											

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company.

General Petroleum Posts following prices 11-13.9 Gr. 50c, 14-22.9 55c at Kern Front, Fruitvale, Mt. Poso Creek and Rd. Mountain districts.

(See page 46)

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 45*)

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.225
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

REFUGIO

(Effective April 10. 1930)

Below 25 gravity (Heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective April 10. 1930)

All grades	$1.40

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.33
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.65
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	$ .90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.43
Maljamar	.95
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective April 11, 1930)

Oil Springs	2.17
Petrolia	2.10

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, De-Soto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

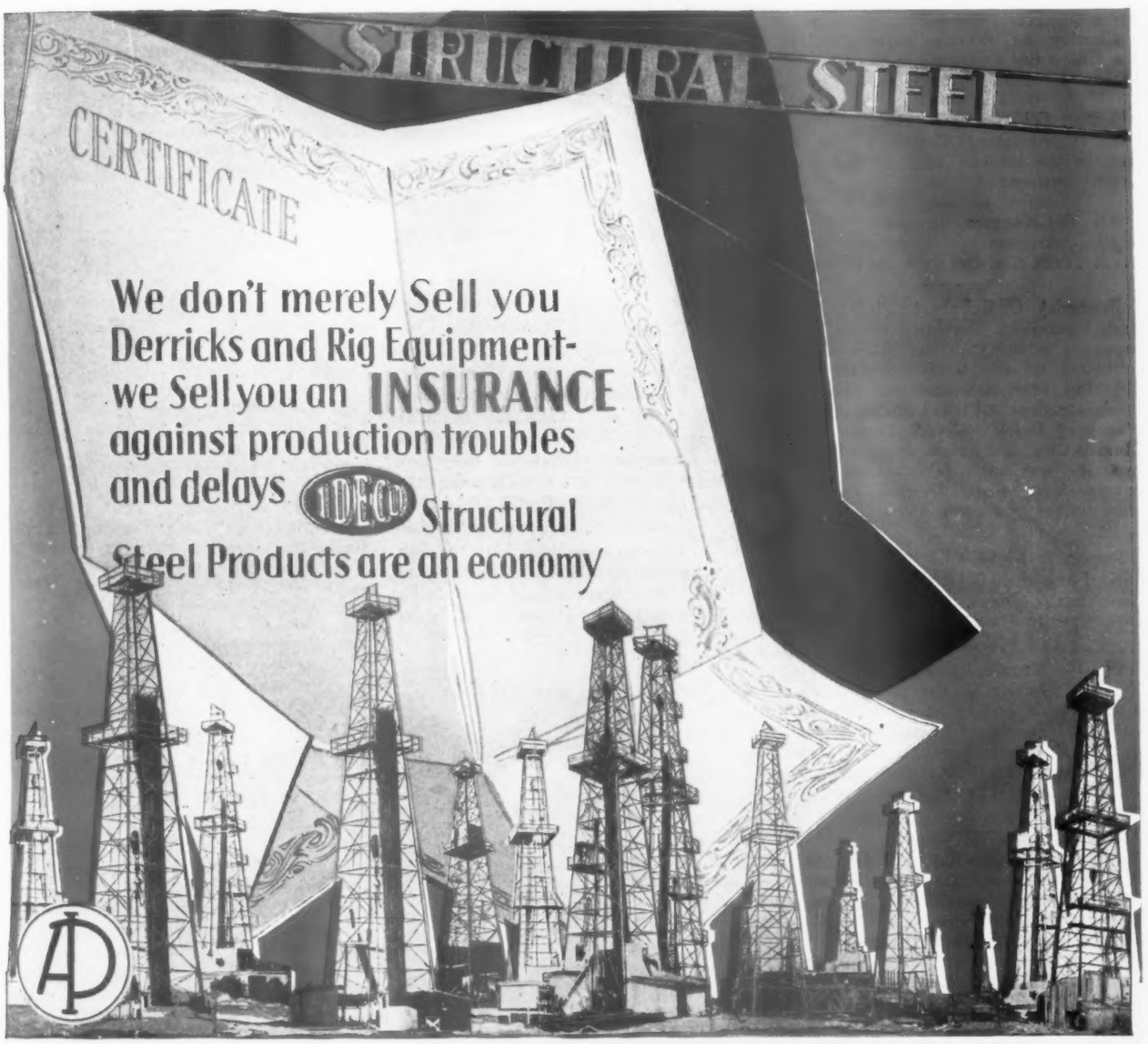
STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

IDECO



DERRICKS

THE INTERNATIONAL DERRICK & EQUIPMENT CO., Columbus, Ohio, Beaumont, Texas, Los Angeles, Cal.

Plants: Columbus, Delaware, Ohio; Torrance, California; Beaumont, Houston, Texas. *District Offices:* New York City, N. Y.; Pittsburgh, Pennsylvania; Wichita, Kansas; Tulsa, Oklahoma; Shreveport, Louisiana; Fort Worth, Beaumont, Texas; Maracaibo, Venezuela. *Warehouses and Stocks:* Columbus, Delaware, Ohio; Seminole, Tonkawa, Drumright, Okemah, Maud Sasakwa, Allen, Oklahoma City, Oklahoma; El Dorado, Wichita Heights, McPherson, Kansas; Houston, Beaumont, Big Spring, Odessa, Pyote, Pampa, Borger, Mexia, Luling, Wichita Falls, Grand Saline, Seguin, Hebbronville, Texas; Lake Charles, Shreveport, Louisiana; Smackover, El Dorado, Arkansas; Bakersfield, Taft, Torrance, California.

Export Offices—90 West Street, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, California. 603

PERSONAL MENTION-MEN YOU KNOW

William Long has resigned as drilling superintendent for Western Drilling Company in the Long Beach field.

Don Riley, formerly scout for Shell Oil Company in the Santa Barbara district, is now connected with Munger Oil Information Service.

Charley L. Woods, superintendent for Union Oil Company in the Midway district for several years, has resigned.

J. Burr Gibbons, vice president of Oil Well Improvements Company is in the east in the interest of the company's export business.

Alf G Heggem, president of Oil Well Improvements Company is in West Texas studying field conditions.

Frederick C. Schubart, Ph.D., Marburg University, Germany, recently accepted a position in the research department of the Gulf Companies at Houston. Dr. Schubart was formerly superintendent of the sulphuric acid plants of Beick Felix & Company in Mexico City, and before serving in that capacity was with Jalapa University, Jalapa, Vera Cruz, Mexico, studying wild rubber gums and trees.

Rupert P. Ricker and Floyd C. Dodson of the firm of Ricker & Dodson, San Angelo, Texas, independent operators, were in Houston last week.

W. C. Kneale, geologist for The Texas Company in the New Mexico district with offices at Carlsbad, has been made assistant chief geologist in the Fort Worth division, which has jurisdiction over West Texas and New Mexico. He is now living in Fort Worth.

J. G. Pundt, who has been operating in San Antonio and other southwestern Texas points, has established headquarters on the sixth floor of the Fort Worth Club building, Fort Worth. Pundt is acquiring natural gas properties, and is negotiating for the purchase of a natural gasoline plant in Coleman County, Texas.

Larry McGinley, who was formerly located at Okmulgee, Oklahoma, has moved to Southwest Texas to become superintendent of field operations for Cosden Oil Company in the Pettus field, where the company has one high gravity producer and several more tests planned.

E. A. Doyle, consulting engineer for Linde Air Products Company was elected president of the American Welding Society at the annual meeting of the society held April 25, 1930.

Eugene A. Stephenson was the featured speaker at the weekly luncheon of the Houston Geological Society, May 27, taking as his subject, "Recent Developments in the Practice of Water Flooding." The luncheons of this club are held regularly at the University Club, Houston.

Wirt Franklin, president of the Independent Petroleum Association of America, has been invited by the California branch to address the Western organization, following a business trip to Denver.

Stanley W. Duhig, head of the auditing department of the San Francisco office of Shell Oil Company for over two years, has been appointed acting secretary of the Shell Union Oil Corporation, with offices in New York. He took up his new duties on May 15. Mr. Duhig has been associated with Shell Oil Company since 1914. He spent 11 years in the Coalinga oil fields, was office manager for Shell Oil Company in Long Beach, and was later promoted to auditor of production in the Los Angeles office. For several years before he became associated with the San Francisco office his activities as head of the sales department accounting work covered all of Southern California and Arizona.

STANLEY W. DUHIG

K. B. Nowels, supervising engineer of the U. S. Bureau of Mines petroleum research office at Laramie, Wyoming, has turned in his resignation effective July 1, 1930 and will become chief petroleum engineer for Forest Oil Company at Bradford, Pennsylvania. Mr. Nowels was formerly connected with Midwest Refining Company in the Salt Creek field as petroleum engineer and later entered the Bureau's service in July, 1923. He was first stationed at Shiprock, New Mexico, and later transferred to the Laramie and Dallas offices. In February, 1926, he returned to the Laramie office as supervising engineer.

Jim Williams, formerly with D. B. McWilliams, Canadian distributor for the Victaulic Company of America, with headquarters at 200 Bay Street, has recently become a special representative of the S. R. Dresser Manufacturing Company in Toronto.

L. F. Baash, president, and H. H. Clark, vice president in charge of sales of Baash-Ross Tool Company, are enroute to Oklahoma City, where that company recently established a field shop and warehouse. The trip is in the interest of further expansion of Baash-Ross service, and will include a study extending over several weeks of conditions in the most important Mid-Continent fields.

B. R. Wittick, Jr., of the export office of Reed Roller Bit Company at New York, is making a five-weeks' tour of the Mid-Continent and Gulf Coast fields.

L. J. King, formerly vice-president of Associated Oil Company, died May 23 at his home in Los Angeles, following a brief illness.

J. H. Jenkins, general manager of production for Associated Oil Company's West Coast operations with headquarters at San Francisco, visited Tulsa and Fort Worth district offices of Tidal Oil Company, an affiliated concern during the past week while en route home from a business conference in New York City.

Don Hagler, formerly connected with Oil Well Supply Company at Houston, Texas, is now connected with the Houston office of Lucey Products Corporation.

Artesia, New Mexico.—Hobbs field is to have three new pipe line outlets and perhaps four, according to various projects announced here recently. Atlantic Oil and Refining Company's line will be the first completed and will connect with the company's farm at Midland, Texas.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Finley-Brown Field Sends Texas Panhandle Output Upward

AMARILLO, Texas. — Production gains charged to Texas Panhandle again during the past week were mostly derived from prolific leases in the Finley-Brown field, Gray County, where major companies are setting the pace in conducting an active drilling program. Gray County increased from 71,010 to 72,945 barrels on daily average production, thus reaching the highest level attained since last December. Curtailment of crude purchases in the Finley-Brown field are being made by major companies to make room for increased yield from their own properties, and connections are now hard to obtain throughout the Panhandle district. The Finley-Brown field was credited with 23 rigs in operation, and eight others rigging up at the close of last week.

Deepening of Humble Oil & Refining Company's Coombs-Worley 2, located near the North Fork of the Red River, Finley-Brown field, gave it a new peak flow of 5200 barrels daily. This well was completed the week previous making 3800 barrels natural at 2790-2808 feet. It was deepened to 2828 feet. Prairie Oil & Gas Company's Worley-Leycomb 3, a northwest offset, blew in last week flowing 4700 barrels high gravity oil and 20,000,000 cubic feet gas at 2843-55 feet. Wilcox Oil & Gas Company's Coombs-Worley 14 sustained a quick production decline after registering an initial output of 950 barrels at 2844-58 feet, and during the second day dropped to 220 barrels. This well will be deepened.

Magnolia Petroleum Company's J. E. Wright 80-acre lease, located in the northeast portion of the Finley-Brown field, was averaging 6800 barrels daily late last week from seven flowing wells. A production increase for the week was gained from this lease without new completions through the deepening of Wright 5 from 2860 to 2863 feet, causing the flow to jump from 800 barrels to 1235 barrels daily. Two additional tests drilling on the north line of the tract are nearing completion. Magnolia Petroleum Company's S. Faulkner 6, located in northeast corner of Section 29 and on 80-acre lease inherited from the White Eagle Oil & Refining Company merger, developed an initial flow of 900 barrels oil and five million cubic feet wet gas early last week from granite wash at 2900-2902 feet. The east and northeast offsets to this well were completed some weeks previous for much smaller wells. A rock pressure of 385 pounds is credited to Magnolia Petroleum Company's 227 Fee No. 5, which recently gauged 33,700,000 cubic feet of dry gas at 2365 feet, and the well is to be capped to supply fuel. This gasser is an outpost test on the northeast side of the field.

Drilling operations in the Finley-Brown field at the close of last week are listed below by companies:

Company—	Active tests	Rigs
Continental Oil Company	1	.
Danciger & Champlin Refining Company	1	.
Gulf Production Company	3	1
Humble Oil & Refining Company	1	.
Magnolia Petroleum Company.	2	4
McMan Oil & Gas Company...	1	.
Mid-Continent Petroleum Corporation-Tidal	.	1
Phillips Petroleum Company...	2	.
Prairie Oil & Gas Company...	2	1
The Texas Company	6	.
H. F. Wilcox Oil & Gas Co. ...	4	1
Totals	23	8

Second Deep Test

Breckenridge, Texas.—Republic Production Company's second deep test on the M. C. Knox farm, located about five miles northeast of Breckenridge, began flowing oil by heads May 22 from top of sandy-lime at 3974 feet. This test is known as Knox 8, and is located in the southeast corner of Section 5, T. P. Ry. Survey, Block 5. Knox 7 showed oil and gas production in broken lime at 3962 feet, but failed to make a commercial producer when deepened to 4685 feet. Casing is to be run in the new test, and a pipe line connection has been promised by Texas Pipe Line Company. Simms Oil Company owns a 225-acre tract directly to the south, and donated 80 acres toward the drilling of the deep test.

New Well Producing Oil and Gas From Big Lake Deep Sand

SAN ANGELO, Texas.—Deep oil and gas production honors held by the Big Lake field assumed added importance late last week when Group No. 1 Oil Corporation's University 2-B blew in flowing 264 barrels of 58 gravity oil during first three hours with heavy gas pressure from hard sandy-lime at 8482-89 feet. This new completion from the deepest known oil and gas horizon gauged 1501 barrels during the 24-hour period ending May 25, with an estimated flow of 32,500,000 cubic feet of wet gas, and 1536 barrels of clean oil and 32,500,000 cubic feet of gas 7 a. m. May 26. About 145 pounds of back pressure was applied on the second day.

University 2-B promises to become a rival for the company's University 1-B, located a half mile to the south, because of having gotten off with a flush output from the start, while the latter started off flowing by heads in late November, 1928, from lime at 8523 feet and did not reach its peak until about one year later. The discovery well is flowing 2838 barrels of almost water white crude and 27,352,000 cubic feet of gas daily, with about 100 pounds back pressure, and is about 100 barrels short of its peak daily flow.

Group No. 1 Oil Corporation is a subsidiary of Continental Oil Company through stock purchases made last summer, and is mixing its high gravity deep oil production with that produced from the regular 3000-foot horizon in the field to realize a top price on the entire output of the property. The new producer was drilled with rotary on contract by Loffland Brothers Company, Tulsa, and completed within about 200 days, including time lost in making repairs, fishing, cementing casing, etc. University 2-B has a surface elevation of 2705.26 feet, as compared to an elevation of 2734 feet on the discovery well of the deep formation, thus indicating a difference of only about five feet in sub-sea depths of the two wells.

Three wells producing from below the 8220-foot level on the adjoining lease held by the Big Lake Oil Company gives the field a total output of 5068 barrels of 58 gravity and above oil and 79,103,000 cubic feet of gas daily from what is termed the deep pay. Big Lake Oil Company's University 5-C, is rigging up to drill a north offset to the new completion. University 1-C, a west offset to the first deep producer for the field, failed to pick up the heavy oil and gas flow expected at the 8500-

foot level, and has been held up for several weeks in trying to fish out twisted off drill stem and core barrel in hard sand at 8658 feet. Cable tools were being used to jar on the stem early this week. University 3-C and 4-C are each making about 100 barrels of oil daily at 8526 and 8220 feet, respectively, while University 2-C is proving to be a consistant producer at 8232 feet, averaging about 520 barrels oil and 12,000,000 cubic feet of gas daily. It is reported that University 4-C will be deepened as soon as production can be killed.

Extension of the Judkins field one mile to the west was realized early this week when the joint test of The Texas Company and Cosden Oil Company on the Connell land encountered hole full oil at 3495-3500 feet, and began flowing by heads while drilling oil saturated lime at 3532 feet. This well is known as Connell 7, being located in the NEc SE Section 1, Block B-16, and is the highest on structure in the field. Production is to be turned to Humble Pipe Line Company through a trading agreement previously made by The Texas Company.

Production in the Judkins field averaged 13,855 barrels daily during the past week from 27 producers, with only one new completion. Gulf Production Company's University 2 started off flowing 100 barrels 33.9 gravity oil per hour at 3630-3700 feet, but settled to an initial output of 1220 barrels daily. Curtailment of crude purchases by Burford Oil Company, which is the only crude buyer in the field, although three major pipe line companies have direct connections, became more general during the past week. Operators affected by this restriction of purchases are endeavoring to get relief by making concessions. Two semi-wildcat tests located across the railroad from the field have not showed for commercial producers even though given heavy shots in oil saturated lime.

Wildcat Test Successful

Phillips Petroleum Company's wildcat test on the Whitten ranch, located about three miles northwest of Eldorado, Schleicher County, was making one-third of a bailer of high gravity oil per hour early this week, with an estimated flow of 750,000 cubic feet of gas daily from sandy lime at 6333 to 6345 feet. This wildcat commanded attention last summer with promise of making a small producer from lime at 4100 feet and later at 4900 feet. Casing was cemented at 6303 feet last week.

Crane County's highly touted wildcat test on the Tubbs ranch had reached a depth of 2780 feet early this week. Cranfill Brothers Oil Company and Gulf Production Company are joint owners of the test, which is logging all formations exceedingly high on structure. Greater penetration of the white lime body is being required than expected but softer lime formation is due within the next 100 feet of new hole, the sandy lime formation furnishing production in Ward County failed to appear on the log of the Tubbs test, so if the latter develops into a successful completion it will be from the true lime formation.

Development lagged behind during the past week on the three tests nearing completion close by the wildcat producer of Deep Rock Oil Corporation et al in Andrews County. The south offset to the producer has hole full oil while pulling big pipe at 4380 feet, and the other two are standing by after cementing the last string of pipe.

Congestion Forces Cut of Van Production

Corsicana, Texas.—Crude congestion in the Van field during the past week led to the reduction of the production from an average of 25,000 barrels to about 12,000 barrels, but the output was allowed to climb back to normal early this week. A lull in tank car shipments, which is the only transportation outlet, and exhaustion of field storage caused the pinching of the wells.

The Pure Van Pipe Line Company has less than 100 miles remaining to be welded on its trunk line, extending from the field to the coast, and expects to be running oil early in July. Upon the completion of this line the price penalty of about 20 cents per barrel on all crude produced in the field will be lifted.

Plugging back work is being started on Pure Oil Company and Hill & Hills' Peters 1, located one mile north of the discovery well of the Van field, because of water breaking in. This well was one of the first to drill into water, and made a 500-barrel producer when plugged back from 3023 to 2964 feet. Pure Oil Company is starting operations on its Mrs. C. White 1, an east offset to the 50-barrel pumper drilled some weeks ago on Humble Oil & Refining Company's Freeman lease, which is an east edge well.

Wildcat activity in the Central East Texas district is moving slowly, and a noticeable slump in lease and royalty trading has taken place in recent weeks. Several new locations are being made each week, but many of these were obligated some months previous. Shell Petroleum Corporation's Stephens 1, which is testing the Larue block, Henderson County, is drilling in Georgetown lime at 3890 feet with a dry hole.

Victoria County

Houston.—Lion Oil Refining Company's J. A. McFadden 1, wildcat test in the south corner of Victoria County, five miles south of Bloomington, showed considerable gas early this week on drill stem test at total depth of 3745 feet. The well is in the M. Traviesa Survey, which is bordered on the east by the Guadalupe River. Considerable geophysical work was done in the immediate vicinity in 1929. The above wildcat is about 15 miles south of Victoria.

Second Deep Producer In East Humble

Houston.—Rio Bravo Oil Company on May 18 completed Fee 1 as the second deep producer off the west flank of Humble dome, Harris County. That well is about 1250 feet southeast of Sun Oil Company's Bender 3, the original deep well on that flank. The Rio Bravo test was drilled first to 4293 feet, and following setting of 164½ feet of 5 3/16-inch screen tested salt water, after which it was side-tracked at 3715 feet. Sandy shale with oil show was encountered at 3735 feet in the new hole, and the well was then drilled on to total depth of 3794 feet, although the last few feet consisted only of tough shale. Following setting of 45 feet of five-inch screen the well came in flowing by heads, and later began flowing steadily, producing 715 barrels on the first 24-hour gauge. The production tested 31.8 gravity at 80° temperature.

Sun Oil Company's Bender 5, a direct west offset to the Rio Bravo Oil Company producer, was in process of completion early this week, having encountered the oil sand around 3834 feet.

Another completion at Humble the past week was The Texas Company's Stevenson 42, which came in flowing 42.5 gravity pipe line oil at the rate of 912 barrels daily after 198 feet of screen had been set at 4792 feet, with the bottom of the hole at 4899 feet.

The Texas Company's Texas Pipe Line Companys' Fee 1, located 700 feet west and slightly north of Sun Oil Company's Bender 3, producer, was coring shale at 4028 feet early this week. Sun Oil Company's Bender 6 was drilling shale and lime at 3087 feet late last week.

Quit Clodine Test

Houston. — Gulf Production Company has abandoned its wildcat test, Brazos Valley Irrigation Company 2, the second unsuccessful well of the Clodine prospect, Fort Bend County. Drilling was stopped around 4700 feet. The well was located in Section A, of the I. & G. N. Survey, 1400 feet from the west and 50 feet from the south line. It was about three miles southwest of Clodine. Indication of a salt dome or similar structure was given through torsion balance survey by Gulf Production Company in 1929, and the company assembled a block of leases. The first test, abandoned at 6065 feet in March, 1930, was in the John Frederick Survey, 1149 feet from the south and 250 feet from the east line of the survey.

Port Barre

Houston. — Another producer was added in the Port Barre field, St. Landry Parish, Louisiana, when The Texas Company early this week brought in Botany Bay Fee 7 as a 2000-barrel well. The crude tested 26 gravity. Nine and five-eighths-inch casing was cemented over the sand at 3316 feet.

California Oil Scouts Form Association

Los Angeles.—Eight scouts of California, employed by that number of oil companies, organized the California Oil Scouts Association this week, adopted a constitution and by-laws, elected officers, and provided for the compilation of a code of ethics, which will be presented at a future meeting for adoption.

The association is a voluntary one, and provides for charter, regular and associate members. Associate members are those who discontinue their services with a company and hold that status for a period of three months, after which they are dropped from the rolls if they have not secured similar employment.

Chas. L. Hall, chief scout for General Petroleum Corporation, was elected as the first president. A vice president, secretary and treasurer were elected, but their names were withheld from publication. Regular monthly meetings will be held on the second Monday of each month and the annual meeting will be held on the second Monday in May. The annual dues are $10, with no initiation fees.

According to the constitution, "The membership of this association shall be confined to men employed in the duties of scouting by California operators actually engaged in the production of oil."

The objects and purposes of the association is thus stated in the constitution:

1. To establish and maintain a code of ethics in the securing and distribution of information within the scope of the employment of the individual members.
2. To create and maintain the highest standard of efficiency.
3. To promote friendly relations between members.
4. To maintain a feeling of loyalty among the members hereof to their respective employers and each other.
5. To generally do such other things as will increase the usefulness of the members hereof, to their respective employers, and to bring about a better understanding in the oil business of the occupation of oil scouting.

The board of directors is composed of the president, vice president and secretary.

Colorado Water Well Has Oil and Gas Show

Denver.—Word from extreme Southwestern Colorado is to the effect that a water well drilled by Haller & Pyatt in Montezuma County, showed some gas above the shale of the first Dakota sand at 700 feet, and to have increased this as the bit entered the sand at 740 feet. When the sand was completely drilled through at 764 feet, the gas was taken off through a one-inch pipe and ignited; drillers estimated the flow at 250,000 cubic feet per day; it was very wet. The sand, which is ordinarily the bearer of artesian water, showed none whatever at this test. The gas is to be bradenheaded off and drilling continued to the second and third sands. There is a report current here that before the sand was entered the well showed two to three barrels of crude oil. The fact is considered significant here that there was any gas at all, and no water whatever, in the Dakota sand.

The Texas Company production officials on inspection tour

Officials of The Texas Company, headed by R. Ogarrio, vice-president and general manager of production, New York City, concluded a 21-day tour of inspection of producing properties and refineries operated by the company in Oklahoma, Texas, New Mexico and Louisiana on May 15. Four officials of the New York office, accompanied by J. A. Bermingham, head of West Coast production operations, were met by division managers at Tulsa on April 25 and traveled for three weeks via train and autos in making the tour, which was concluded at the Van field in East Central Texas. Each division manager was host to the party while it was in his respective district, and arranged for all accommodations and the itinerary.

The accompanying photograph of the party includes the following—reading left to right:

R. Ogarrio, vice-president and manager of producing department, New York; V. L. Porter, assistant to vice-president and manager of producing department; E. D. Hopkins, secretary to vice-president and manager of producing department; J. L. McMahon, division manager of North Texas division of producing department, Wichita Falls; R. F. Baker, chief geologist, New York; R. C. Stewart, division manager of Louisiana and Arkansas division of producing department, Shreveport; E. R. Filley, division manager of Oklahoma and Kansas division of producing department, Tulsa; A. R. Wilson, vice-president and general manager, Texas Production Company, Denver; J. A. Bermingham, vice-president and manager of producing department The Texas Company of California, Los Angeles; L. E. Barrows, division manager of West Texas-New Mexico division of producing department, Fort Worth; W. V. Bowles, division manager of South Texas division of producing department, Houston.

Plan Plant to Separate Oil from "Ice Cream" Gas

Denver.—Interesting item of news in oil circles this week is the announcement of Continental Oil Company's contract with Dryice Corporation for an experimental refining plant to be constructed at Walden, in Jackson County, Colorado, which will work out a process to separate the oil from the "ice cream" wells which the company has on Walden Dome. The residue is "dry ice" which has become so increasingly in demand in the last few years. This product Dryice Corporation will retain, while the oil will go to Continental Oil Company. There is a production of 30,000,000 to 45,000,000 feet of the gas, with a recovery of 60 tons of ice from a 1,000,000 cubic feet possible.

The field is well situated to serve the Western States with refrigeration for railway, freight and express cars for perishable products.

It is said that the gas is manufactured by a chemical process underground which cannot be exhausted. There are some similar wells in Europe which have continued to produce for 600 to 700 years.

Sinclair Merger With Prairie Is Progressing

Tulsa.—If H. F. Sinclair was correctly quoted in New York May 21, the petroleum industry can continue to look forward to the merger between the Sinclair Consolidated Oil Corporation and Prairie Oil & Gas Company. Before the meeting of Sinclair stockholders, the chairman of the board was quoted as classing the merger as "still alive and progressing."

He was further quoted, "such a consolidation is a large proposition with many ramifications."

Sinclair stockholders approved the increase in authorized shares of Sinclair Consolidated Oil Corporation from 10,000,000 to 20,000,000.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Gulf Building Additional Line Outlet for Darst Creek

SEGUIN, Texas.—Gulf Pipe Line Company plans immediate construction of an eight-inch pipe line into the Darst Creek field, Guadalupe County, and operation of the proposed carrier is expected to be started about August 1, 1930.

The line will also serve the Salt Flat field, Caldwell County, located about 15 miles northeast of Darst Creek, and it will extend on eastward to Sour Lake, pipe line concentration point just northwest of Gulf Refining Company's large refining and shipping center at Port Arthur. Although the Darst Creek line will tie-in to the already established Gulf Pipe Line Company pump station at Crosby, Harris County, new pipe will be used on the 45-mile section from that point on to Sour Lake as well as on the rest of the line. Total length of the carrier will be roughly from 200 to 225 miles. Present plans call for building of four 80,000-barrel steel tanks at Darst Creek, and for pumping the crude from the field on through to Crosby.

Double-bell pipe will be used, and the line will be welded, partly by gas and partially by electric welding. It will be the first important carrier of Gulf Pipe Line Company employing arc welding in construction. The pipe will be supplied by National Tube Company. Construction work is scheduled to commence about June 15, and the line is expected to be completed by the end of July.

Gulf Production Company, a major producer affiliated with Gulf Pipe Line Company, ranks at present as the second largest producer at Darst Creek, and having completed one exceptionally prolific producer a little over a week ago, a chalk fault well which flowed at the rate of 22,300 barrels daily on proration gauge, it is likely to take first place in total potential production on the forthcoming proration schedule which will go into effect June 1. While The Texas Company ranks first on the current semi-monthly schedule, from the standpoint of number of completed wells and production allowance, with 34 producers showing combined potential production of 51,477 barrels daily, and earning daily allowance of 5408 barrels, Gulf Production Company earned an allowance almost as large, namely 5227 barrels daily, with 21 completed wells showing combined potential of 55,854 barrels daily, or slightly more than that of the 34 wells of The Texas Company. The lower allowance is due to the fact that individual well allowances are determined 50 per cent by potential production and 50 per cent by flat division of market outlet among the 20-acre units in production. The 22,300-barrel well of Gulf Production Company which will share in prorated market outlet for the first time on June 1 is Dix-McKean 3-A, the third largest well completed at Darst Creek. Humble Oil & Refining Company, which has the third largest production allowance under the present schedule, namely 3454 barrels daily, had 27 wells with potential of 27,377 barrels when the schedule was compiled.

Gulf Production Company's properties at Darst Creek include productive and potentially productive leases in all parts of the field. The company has extensive choice acreage in the north and north-central portions of the field, where the proven territory is widest, and where particularly good wells have been completed. Although the Gulf interests have not had any pipe line connection to the Salt Flat field, they have extensive producing properties there.

Northeast Test Successful

Gulf Production Company recently brought in T. Briscoe 2 on the extreme northeast end of the Salt Flat field as a 480-barrel well, obtaining production beyond what was generally conceded to be the closure. It swabbed 120 barrels of oil in six hours after the plug was drilled, and was reported to be flowing by heads at the rate of about 20 barrels per hour. The well reached the Edwards about three feet high on the formations and showed no indication of water, although the main field is yielding considerable water along with oil. The company is reported to have taken leases on a large block of acreage extending straight up the strike line from the Briscoe lease for several miles, and will core drill several of the leases to determine whether or not there are possibilities for a field there. One mile northeast of the Gulf Production Company well Bill Hinton has made location for Perry 1.

The relatively slow decline of daily output at Salt Flat as at the old Luling field, the encouraging performance of the Darst Creek area itself, and the rather promising prospects of additional new fields in that general area as well as to the southward constituted some of the circumstances leading to the decision of Gulf Pipe Line Company to build the proposed carrier.

On completion of the Gulf Pipe Line Company system there will be six pipe lines serving Darst Creek, including three leading directly to the coast. Humble Pipe Line Company has a six-inch line from Darst Creek to Salt Flat and an eight-inch trunk line from there to West Columbia, a distance of 120 miles, connecting at the latter point with an older line leading to Humble Oil & Refining Company's Baytown refinery on the coast, by way of Webster pump station. The Texas Pipe Line Company has a six-inch line leading from the field to Rosanky station on the company's trunk line from West Texas to the Gulf Coast. Magnolia Petroleum Company has a system connecting with its Luling tank farm, a short distance to the northeast. Grayburg Oil Company has a similar connection from its Luling district trunk line to producing wells of L. C. Turman. Louisiana Oil Refining Corporation was the fifth purchaser to enter the field with a pipe line, building a 3½ mile six-inch line to a 50-car railroad rack at Sullivan, whence shipments are made to the company's Shreveport, Louisiana, refineries.

Two tests were completed in and near the Darst Creek field the past week, both by Magnolia Petroleum Company, one being a producer and the other a failure. Klein 2, located on the east side of the main field came in as a 1000-barrel producer at 2623 feet. Manford 1, located northeast of the main field has been abandoned at 3036 feet. Gulf Production Company's Malaer 1, in the north end of the main field, completed originally as a producer from serpentine, was drilled deeper, and early this week was reported swabbing 88 barrels daily from Eagleford shale at total depth of 2438 feet. Preparations are being made to put the well on the pump.

Sun Oil Company's Manford 2, located in the "Manford area" about three miles northeast of the main Darst Creek field, has been drilled to 2901 feet, and having failed to develop line production, preparations are being made to shoot the chalk to try for production in that horizon, where rather favorable showings were encountered

Pettus Producing Area Extended Three Miles West

HOUSTON.—Oil producing area in the Pettus field advanced three miles to the west when Cosden Oil Company's McKinney 1, a semi-wildcat located in the north part of the south John Pace Survey, Bee County, began flowing 25 barrels high gravity oil per hour from sand at 3652-64 feet on the morning of May 23. This new producer was flowing 10 barrels oil per hour, testing 46.8° gravity (corrected) May 24 through two-inch tubing and three-eighths-inch choke, with 400 pounds back pressure. The oil is being run for purchase on open division order by Gulf Coast Pipe Line Company's tank car rack system. A flat price of $1.40 per barrel is posted for all grades of oil produced in the field.

A small percentage of rotary mud was accompanying the flow of oil from the extension well on the McKinney farm, but this is believed to be due to the hole not having been thoroughly cleaned before the back pressure was applied. Encouraged by the successful completion of first test drilled in the Pettus field, Cosden Oil Company has announced that two more tests will be started promptly, including one to the north of the producer. A warehouse and field organization have been established to proceed with development work. Larry McGinley, formerly of Okmulgee, Oklahoma, has been appointed field superintendent in this district for Cosden Oil Company, which maintains headquarters at Fort Worth.

The original Pettus field at present has five producing wells, all flowing, with combined daily yield of over 3000 barrels, and two additional wells located near the established production are due to be completed within a short time. Union Producing Company's Ray 9, located 600 feet south of Ray 8, a producer, was drilling sticky shale at 3150 feet late last week, while Humble Oil & Refining Company's McKinney 3, an east offset to Ray 9, was drilling shale at 3493 feet. The top of the producing sand was found in the five completed wells at depths of 3950 to 3975 feet.

Massengale-Freeland 1, the wildcat test of Rowan & Tong and Cosden Oil Company located approximately one-half mile northwest of the new producer of Cosden Oil Company on the McKinney land, made no interesting showing on drill stem test last week at 4285-4297 feet. Shale and sand with slight show of gas was previously cored at 3991-97 feet. Massengale-Freeland 1 is in the south one-third of the north John Pace Survey, Bee County.

Aside from the two wells which Cosden Oil Company will drill in the immediate vicinity of its producer, several other immediate tests are in prospect for the district, including some in the very interesting territory lying between the Cosden well and the main Pettus field. Bay-Tex Oil Company has made location for Burnett Heirs 1, which will be a south offset to Cosden Oil Company's producer. The location is 150 feet out of the northeast corner of the 80-acre lease in the John Pace Survey. Three locations have been staked on the Leroy Roberts (Courtney) land in the George A. Kerr Survey between the Cosden producer and the town of Pettus. Barnsdall Oil Corporation's Leroy Roberts 1 is a southeast diagonal offset to the Cosden Oil Company producer, being 300 feet south of the north line and 300 feet east of the west line of the 225-acre Leroy Roberts (or J. L. Courtney) tract. Trinity Drillers' Leroy Roberts 1 was located 280 feet south of the north line and 150 feet west of the east line of a 5½-acre tract lying west of and adjoining the Pettus townsite, while the same interests' Leroy Roberts 2 was located 365 feet south of No. 1 and 150 feet west of the east line. Houston Oil Company has made location for M. A. Neumann 1 at a point 300 feet east of the west line and 300 feet north of the south line on the 197-acre tract formerly shown on maps as H. E. Price land, and lying east of Cosden Oil Company's new producer.

Union Producing Company is building derrick and moving rig on location recently made for Ray 10, which will further test the possibilities of the area to the east of the main Pettus oil production. That location is about 3000 feet northwest of Union Producing Company's Ray 3, a gas producer located across the county line in Goliad County. Ray 10 is 150 feet out of the southwest corner of Block 6 of 100 acres of Subdivision B, Ray ranch. The Goliad County gas well, Ray 3, is approximately two miles east of Pettus oil production; the location for the new test, Ray 10, is about 8000 feet northeast of oil production.

Nichols Oil Corporation's Hicks 3, located one mile south of Normanna and about seven miles south of Pettus oil production, near the center of Jose Maria Uranga Survey, Bee County, recently tested wet gas at 3615-27 feet on drill stem test, and after screen was set following cementing of 8¼-inch casing at 3619 feet, the well came in as a 25,000,000-foot gas well. It was later reported producing some 60 gravity oil along with the gas, and the well was shut in. This test has been responsible for extensive lease and royalty trading between it and the Pettus oil pool.

Houston Oil Company's J. R. Beasley et al 1, located in Block 36 of the Pettus townsite, and therefore between the new Cosden Oil Company well and the main Pettus oil pool, has cemented 12½-inch casing at 496 feet.

Test Shows Salt Water

Humble Oil & Refining Company's Lackey & Weldon 1 in the J. Gomez Survey, Goliad County, three miles east of oil production at Pettus, tested salt water late last week at 4256-64 feet. William F. Morgan et al's Pereira 1, in Block 14 of the V. Ramos Survey, Goliad County, was drilling shale at 3577 feet at the same time. That well is several miles southeast of the Humble Oil & Refining Company test.

E. S. Price et al's Laura Weiss 1, located in the Brooks & Burleson Survey, Bee County, about 3½ miles southeast of proven oil territory at Pettus, showed neither oil or salt water last week on drill stem test at 2551-60 feet.

Grayburg Oil Company's A. J. Kimball 1, located about seven miles west of the main Pettus oil production, encountered sand with oil show at 3403-08 feet, and a drill stem test will be made.

Trinity Drillers and T. B. Slick last week made location for what will be an interesting wildcat test, Alfred Theis 1. It is in the R. S. Barnes Survey, Bee County, one mile northeast of the town of Cadiz and about 10 miles west of Beeville, being near the Live Oak County line and about midway on a direct line between the Pettus field and the Mount Lucas gas field, Live Oak County. It is about 14 miles southwest of Pettus, and the same distance northeast of Mount Lucas. It is 2700 feet from the north line and 300 feet from the west line of the survey.

During the past week there was in progress a leasing campaign involving around 30,000 acres of Bee County land south of Beeville, centering at first around territory from six to eight miles southeast of

Water Increases in Deep Barbers Hill Test

Houston.—Yount-Lee Oil Company's Zadie Fisher 1 at Barbers Hill, completed May 21, 1930, as the deepest producer in the Texas Gulf Coast and as the discovery well of deep sand production on the southwest flank of Barbers Hill dome, yielded 2500 barrels, 28 per cent salt water, during the 24 hours ending at seven o'clock on the morning of May 27, flowing through two one-half inch chokes.

Since its completion the well has shown gradual increase in volume of salt water. It was originally reported to be yielding 10 per cent b.s. and water. Early this week chokes of various sizes were being tried with the object of allowing the well to produce at the greatest advantage. Total depth of the well is 6929 feet, but the producing depth is 6690 feet.

Humphreys Corporation's Morgan 1, which came in last week as the first deep producer on the north flank of the dome, flowing for an hour at the rate of 1500 barrels daily, and then sanding up, was fishing early this week for 16 points of wash pipe left in the hole.

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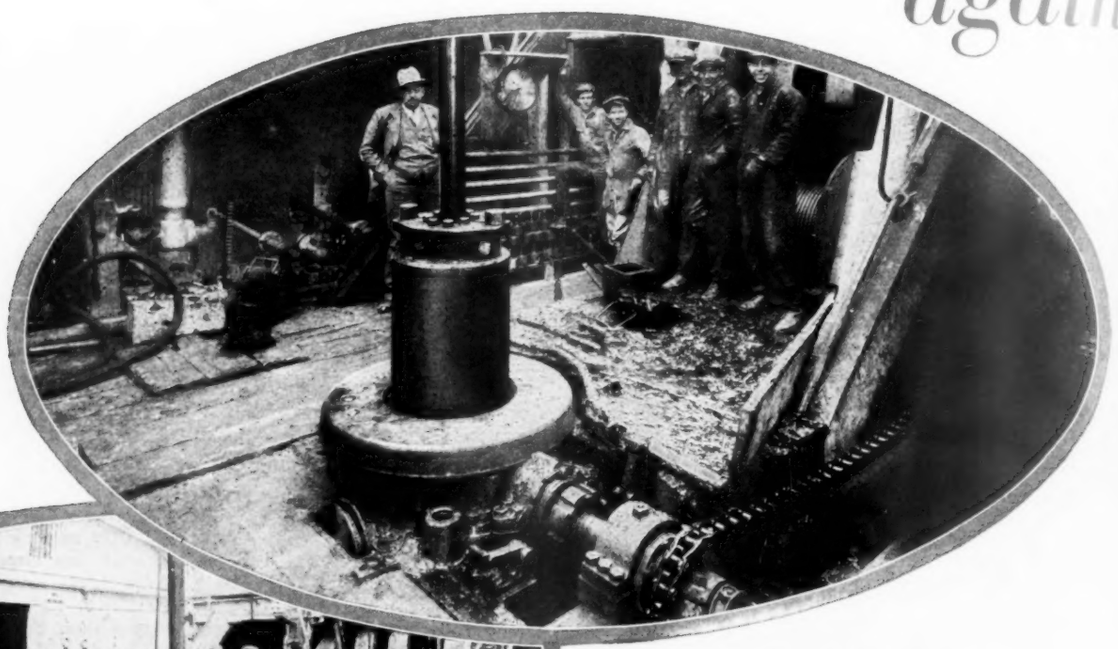
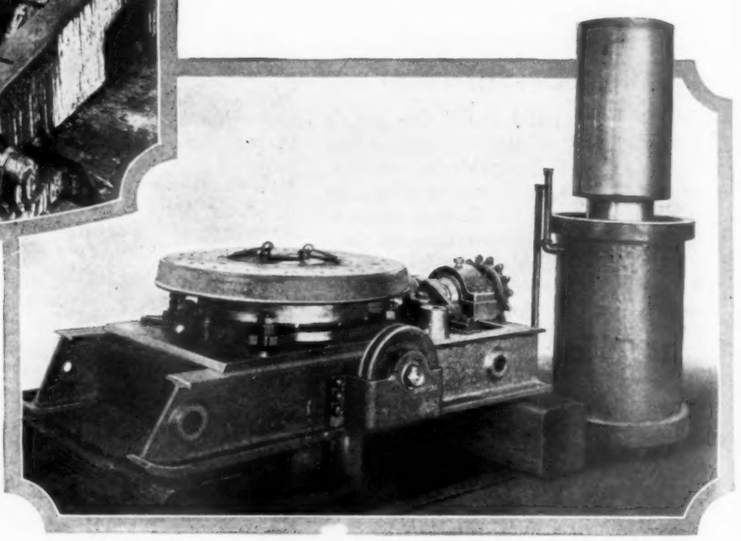


Mills City, Well No. 1, Turner Valley, Calgary, Canada. Drilling against rock pressure of 1500 pounds with oil circulation at the depth of 4700 feet.

Mills City, Well No. 2, Turner Valley, Calgary, Canada. Drilling depth, 5284 feet. Circulating with oil, carrying pressure controls for handling three-thousand-pound rock pressure.



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Beeville, following Poesta Creek. William F. Morgan and associates, Tidal Oil Company, Independent Oil & Gas Company, Sinclair Oil & Gas Company, Shell Petroleum Corporation and Gulf Production Company were actively interested, and land which was leased included 1500 acres of the W. H. Ware property, 6000 acres of the P. R. Welder land, and 2000 acres of the Maggie Murphy property.

Live Oak County, in which the Lucas and Three Rivers fields are located, has again become interesting territory from the standpoint of exploration for oil, and for the second time the county has been leased almost solidly, with the activity in leasing spreading into Jim Wells and McMullen Counties to the west. Numerous major companies have geologists in the territory.

Houston Oil Company's Ross Boothe 1, an oil test in the Mount Lucas gas field, is drilling hard shale at 3752 feet. Daugherty et al's Daugherty 1, located about 10 miles south of Mount Lucas in the M. Borden Survey, Live Oak County, is drilling shale at 1710 feet.

Prolific Producer Is Completed At North Dayton

HOUSTON.—Houtex Production Company has completed Deering-Wilhite 1 on the south flank of North Dayton dome, Liberty County, as a prolific deep well yielding 41.5 corrected gravity oil from sand at 4770-97 feet. Six and five-eighths inch casing was cemented at 4770 feet. The well came in May 26, 1930, flowing at the rate of 3360 barrels daily through five-eighths-inch choke, showing 660 pounds pressure. During the first 24 hours it produced 3100 barrels. Location of this producer is in Section 125, H. & T. C. Survey, 150 feet from the north and west lines of the southeast quarter. It is a little east of similar deep production established by Harrison Oil Company.

Houtex Production Company is owned by the Harvey Smith interests, Houston, and the new well mentioned above is furnishing its first production at North Dayton, although the company has one other drilling operation in the field. The other test, Brown-Tadlock 1, also on the south flank of the dome, had a blowout last week from sand and shale at 5340 feet, was sidetracked at 4830 feet, and was reported drilling lime rock at 4912 feet late in the week.

Two other deep tests are in progress on the south flank of North Dayton dome, both being drilled by Victor Oil Company (formerly V. H. Borsodi et al) on Gulf Production Company fee land. Gulf Fee 1 recently tested salt water at 4466 feet and was drilling ahead late last week in shale and lime at 4800 feet. Gulf Fee 2 at the same time was preparing to set screen in sand and shale showing oil at total depth of 4768 feet. The Texas Company and Paraffine Oil Company were drilling sandy shale, no show, early this week in Fee 1, a west offset to a recently completed deep producer Harrison Oil Company's and Humble Oil & Refining Company's Jamison Fee 1.

Incentive for the drilling of the above tests was furnished through the completion about December 10, 1929, of Harrison Oil Company's Balderach 1 on the south flank of the dome for 3500 barrels initial production, 41.2 gravity pipe line oil, at 5110 feet. Following completion of that well Harrison Oil Company and Humble Oil & Refining Company put down Jamison 1, a direct west offset, and after drilling originally to 5043 feet, testing salt water and plugging back, completed the well as a flowing producer yielding 1800 barrels fluid daily, including 850 barrels net oil.

Prior to the drilling of Balderach 1, Harrison Oil Company had put down four deep tests on its 50-acre Quintette lease farther westward along the flank of the dome. That company's Quintette 1, in fact, was the deep sand discovery well at North Dayton. It came in about July 20, 1927, flowing 400 barrels of high gravity oil daily at 4134 feet. The next test, Quintette 2, located 300 feet east and 50 feet south of No. 1, was abandoned at 4602 feet. Quintette 3, which was 150 feet south and 50 feet east of No. 1, came in July 27, 1928, flowing 5000 barrels 40 gravity pipe line oil daily following setting of two joints of screen at total depth of 4315 feet. Quintette 4 about a year later was completed as a gas well at 4120 feet.

Refugio

Houston.—There were several completions during the past week at Refugio, including one new deep producer. The latter was Union Producing Company's O'Brien 4, which came in flowing 900 barrels pipe line oil daily through 3/8-inch and 1/4-inch chokes following setting of 21 feet of screen at total depth of 5446 feet.

Mission Drilling Company's Eliza Brown 1 came in flowing 1000 barrels pipe line oil daily with 22 feet of screen set at 3699 feet. E. M. Jones' Mitchell 2-A has been plugged and abandoned at 3743 feet, and the same company's Jeter 1-A is a new 160-barrel pumping well at 3696 feet.

New Field in Prospect for Guadalupe County

SEGUIN, Texas.—Wildcat efforts of Tidal Oil Company along the southwest trend of the Luling fault zone uncovered a new high gravity oil producing area in Guadalupe County on May 23 when drill stem test taken in Austin chalk formation at 2515 feet filled the stem with 900 feet of oil in 12 minutes. The performance of the well on this test virtually assures a commercial producer, and further operations have been suspended to case the hole and install fittings, tankage, etc. to complete. The oil recovered through the preliminary test is credited with a corrected gravity of 38.8 degrees, same being slightly higher gravity than the average produced in the Darst Creek and Salt Flat fields, which are located in the same zone of faulting to the northeast. The new oil strike is located about six miles south of Seguin, which is the nearest railroad point.

Tidal Oil Company's Guadalupe County wildcat is located on the Julius Seligman 43-acre tract, H. J. Williamson Survey, being 150 feet south of the north corner of the lease, or 1900 feet from the southwest and 150 feet from the northwest lines of the survey. The company has about 1500 acres of adjoining and nearby leases, with Sinclair Oil & Gas Company holding the northeast offset lease and the Smi-Lock Petroleum Company, Mexia, in possession of the 50-acre lease to the northwest. Empire Gas & Fuel Company has a lease on a large tract located a short distance to the north.

Structural conditions somewhat similar to those at Darst and Salt Flat prevail around the new strike, which was made by the first test drilled on the block. Although the latter two established fields have contributed commercial oil wells from the Austin chalk formation, the Edwards limestone is the major source of production, which averages 2600 feet in depth. Tidal Oil Company's Seligman 1 is to be tested in the chalk formation before deepening to the Edwards limestone, which underlies the former. The top of the Austin chalk on the Seligman 1 was logged at 2467 feet, with a surface elevation of 595 feet, or 1872 feet below sea level. The first oil saturation appeared when core was taken at 2511-15 feet. Other than 12½-inch surface casing cemented at 242 feet, the test was drilled to this depth with rotary in open hole. A string of 8¼-inch pipe is to be cemented near the top of the chalk horizon.

Completion of a commercial well on the Seligman land will probably result in Tidal Oil Company's output being turned over to the trunk line operated by Texas Pipe Line Company for common carrier movement to the coast, as the former has a long time contract for such movement out of West Texas fields through the same system that serves the Luling district.

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Opening New Pool Southwest of Earlsboro Seems Likely

TULSA.—Opening of a new pool southwest of Earlsboro seems very likely in view of the showing already made by Lippa Drilling Company, Tidal Oil Company et al's Kelly 1, NE SE NW Section 19-9n-5e, which topped the Hunton lime at 4067 feet and drilled No. 2—Opening of New Pool Southwest feet and the well is making about 10 barrels hourly through a leak in the master gate while tankage is being erected. This well is west of what is known as South Earlsboro.

In the Konawa area several wells are coring good shows in the Cromwell and the stray sand and the next few days should be important in regard to further defining the structural conditions. The production for the 24-hour period ending at 7:00 a.m., May 26, was 18,723 barrels from 24 leases. Mid-Continent Petroleum Corporation's P. Harjo 1, NE SW SE Section 20-6n-6e, had the base of the first sand at 2903 feet and the second sand at 2910 to 2913 feet with a seven-foot break of green shale between the two. Production increased 15 barrels per hour upon penetrating the second sand and the well gauged 4740 barrels. Hilton-Phillips' Burgess 1, NW NW NE Section 20-6n-6e, jarred the tool loose and was good for 3925 barrels on the first 24-hour gauge.

There are 94 operations in the Greater Seminole district with 77 wells actually drilling. Several small structural highs are known to exist in the area and it is not improbable that many of them will be productive within the next few months.

Since the completion of Payne Drilling Company's Bullock 1, SE SE NE Section 22-6n-3e, several weeks ago, geologists have been puzzled as to the correlation on the productive sand. At a meeting of the geologists working in the area it was decided that the sand belongs in the Wewoka series, which is several hundred feet above the Cromwell sand in the normal section. This well came in for better than 800 barrels, flowing through a rip in the casing and is still producing for an average of more than 850 barrels daily.

In the West Chandler area, Magnolia Petroleum Company's Staubus 3, NW SW SE Section 8-14n-4e, is drilling in Hunton lime with salt water showing. The hole is said to be crooked, which may account for the fact that it is still drilling in the Hunton at a point only 17 feet higher than the same company had the top of the Wilcox or Simpson in its Benedict 2, NE SE NW Section 7-14n-4e.

Oklahoma City Gets Mile Extension

Tulsa.—Oklahoma City pool was extended one mile west when Hall and Briscoe's Holmes 1, NEc SW SE 10-11-3w, was completed Monday, May 26. It flowed 10,826 barrels in 10 hours. Six-inch casing was set at 6300 feet. Top Detrital zone, 6307 feet. Total depth is 6417 feet.

Franklin Oil Corporation's Wright 1, NEc NE NW 2-11-3w, three quarters of a mile northwest nearest production, cored 9½ feet at 5396 to 6406 feet. Show of oil is in sand and shale.

Tulsa.—A second well was completed in Wanette field when H. F. Wilcox Oil & Gas Company's Atkins 1, NWc SW, 23-6-3e, came in flowing 1260 barrels in 17½ hours. The sand was topped at 3512 to 3517 feet. The well is a southeast offset to Bullock Oil Corporation's Bullock 1, completed by ripping casing, after drilling into water in Wilcox sand at lower depth.

Production is credited to Cromwell sand. The Wilcox well is now flowing 65 barrels per hour. Oil tests 43.5 gravity. Sinclair Crude Oil Purchasing Company is taking the oil.

Oklahoma City Threatened With Townlot Drilling

TULSA.—Oklahoma City has been initiated into a role which it may often fill in the near future if town-lot drilling continues to encroach on the city limits. Indian Territory Illuminating Oil Company's Procure 1, SE SE SE Section 11-11n-3w, came in Saturday morning, May 24, for an estimated flow of better than 25,000 barrels and 100,000,000 cubic feet of gas daily. Oil was blown high into the face of a strong southeast wind and within a few minutes parts of the business and residential districts had been covered with a thin film of oil. Separators were overloaded and the well was closed after 15 minutes to permit the erection of additional capacity.

The second large well of the day, T. B. Slick's Frank Martin 1, CS½ SE SW Section 1-11n-3w, flowed 378 barrels during the first 25 minutes and was closed in when a bull plug was blown from the control head. It will be opened within the next few days for an initial test.

The most interesting well at the present time is the Wirt Franklin Wright 1, 290 feet south of the north line, and 720 feet east of the west line of the SW of Section 2-11-3w. Top of the Detrital zone was at 6165 feet with the first broken sand at 6226 feet. The well has been cored at 6277 to 6295 feet, where a 3-inch sand was highly saturated, at 6323 to 6341 feet, recovering 2½ feet of green sand and three feet of brown sand with a show of oil, and at 6341 to 6347 feet, showing sand and sandy shale with a little oil. This well is one mile northwest of production and is running only slightly lower than those in the southeast quarter of the same section.

Pandem Oil Company et al's St. Josephs Orphanage 1, SE NE SE, Section 17-12n-4w, approximately 3½ miles north and 10 miles west of the main pool, is bailing to test a show of gas encountered at 6035 to 6060 feet. One report stated that the gas pressure was strong enough to blow rotary mud several feet above the top of the casing. This well has been running consistently low on the upper formations and the results of the bailing test should prove interesting.

Cromwell-Franklin Oil Company abandoned its Thompson 2, SW NW NE, Section 15-12n-3w. The well was drilled to 4575 feet in shale, being the second abandonment in the block directly north of the State Capitol building.

Voshel Takes First Rank Among Kansas Fields

TULSA.—The Voshell pool ranked first in Kansas over the week. Although not yet drilled in, Gypsy Oil Company's test, Stucky 1, SE SW SE 33-20-3w, is of first importance, as its completion will extend the field a half mile north. The bit entered the Viola lime at 3236 feet, which but a few

feet lower than the highest wells of the pool on this formation. The well is being changed to standard tools for further testing.

Krehbiel 2, NE SW SE 4-21-3w, had 2000 feet of oil in the hole, after drilling four feet into the Siliceous to 3365 feet. It will be put on the swab. Sinclair Oil & Gas Company's Morehouse 2 had 1500 feet of oil, total depth 3371 feet. Derby Oil Company's Stucy 4, NWc SE of 9-21-3w, an east offset to a dry hole, has made one flow. Wilcox sand was found at 3318 feet and the Siliceous lime from 3372 to 3378 feet.

The first showing of water for the Voshell pool came last week in Shell Petroleum Corporation's Stucky lease in 9-21-3w. Edge wells have had salt water.

The Voshell pool now has 62 wells with potential output of 45,200 barrels daily, 38 of these being pumping wells and 24 on the swab.

The Texas Company's Munn 2, c NE quarter of 12-20-2w, flowed 1935 barrels in 19½ hours. It was drilled to 2974½ feet in the chat, which was stopped at 2970 feet. Back pressure of 100 pounds was applied.

An extension to the Wiggins pool of Greenwood County is Jones 2, owned by Alladin Oil Company and Phillips Petroleum Company in NE SE NW 36-24-10. After a shot of 100 quarts the well flowed 200 barrels from sand drilled from 1890 to 1919½ feet.

Mid-Continent Scouts Hear Opposing Economic Theories

TULSA. — Scouts and land men heard an estimate of the position they hold in the petroleum industry here the night of May 23, when E. B. Reeser, president of the American Petroleum Institute and president of the Barnsdall Oil Corporation spoke at the annual banquet. The banquet was the entertainment feature of the first day of the annual meeting of the Mid-Continent Oil Scouts and Land Men's Association.

The banquet also was marked by an address by Wirt Franklin, president of the Independent Petroleum Association of America. Between the two speakers those at the banquet were treated to expressions of the two rival chains of thought with regard to petroleum economical conditions. Mr. Franklin gave his views on the need for a tariff, a subject he has presented frequently before audiences of the petroleum industry.

Mr. Reeser paid his tribute to the scouts by saying:

"Imagine the confusion and financial loss, which would result if the scouts decided that they would disregard veracity for a period of three months. Large expenditures are authorized solely on reports and confidence they have in their departments. The land department would be far from efficient without the loyal co-operative spirit of the scouts. The geological department would also find it difficult to work with their accustomed efficiency without your loyal support."

He next went into economic conditions and presented statistics to show that the larger oil concerns are not carrying on extensive drilling campaigns.

"A frequent statement," he added, "is to the effect that if the larger companies discontinued their active drilling campaign, the over-production problem would be solved. May I call attention to a survey recently made of all the drilling wells in the United States, which showed that the companies controlling approximately 80 per cent of production were drilling only 34 per cent of the wells; whereas those controlling 20 per cent of production were drilling 66 per cent of wells."

Mr. Franklin introduced the matter of conservation of domestic petroleum reserves, until foreign oil has been depleted, as a proposition, which may leave the American oil producer with a raw material, which is not needed. He called attention to the plea for coal conservation and pointed to the fact that coal deposits are now ample, with no market in keeping with raw material. He said it was not unlikely that a similar condition may come to the petroleum industry, as science may find other sources of energy to supplant gasoline.

He also gave the position of the independent oil producer in regard to foreign oil imports. The condition, which allows unlimited crude oil and gasoline imports, while domestic oil is held in check, he classed as favoring the few large concerns, which have foreign reserves.

The annual meeting of scouts and land men opened with registration the morning of May 23. In the afternoon the visitors were guests of the Tulsa Jockey club for the races. The banquet was held in the evening. The next morning was devoted to the business session, while the annual dance came in the evening.

Ralph Walkingstick was re-elected president of the association. He is field scout for Tidal Oil Company in the Shawnee district. He was selected president, due to the removal of Robert P. Brewer, Jr., to Texas last year.

H. L. Hogan, with Prairie Oil & Gas Company, Wichita, Kansas, was elected first vice president, and E. B. Braley, Barnsdall Oil Corporation, also of Wichita, was elected second vice president. M. P. Norwood, Prairie Oil & Gas Company, scout with headquarters at Sapulpa, was re-elected secretary and treasurer.

Directors of the association are to meet at a later date to select a chairman of the board, a position held last year by George A. Schwab, superintendent of the land department of the Barnsdall Oil Corporation, Tulsa.

Chapter Hears Discussion of Oklahoma City Drilling

DRUMRIGHT, Oklahoma.—Some of the difficulties and peculiarities of deep drilling in the Oklahoma City pool were brought before the Drumright Chapter of the A. P. I. division of production at the regular meeting here May 20. J. R. McWilliams, chairman of the Mid-Continent division and engineer for Skelly Oil Company, presented this part of the program. There were talks by D. L. Trax, engineer for Gypsy Oil Company; Raymond Carr, engineer for Sinclair Oil & Gas Company and Robert R. Hawkins, district engineer of The Texas Company.

First Mr. McWilliams sketched geological conditions at Oklahoma City and cited the recent high output from Wilcox sand wells as an indication of the possible extent of further drilling there. He dealt with the heavy equipment and the precautions necessary for properly completing wells, which have the high gas pressures, volumes and hazards common to the field.

The peculiar happenings in connection with flowing wells drew a share of his remarks. Blackboard sketches of equipment, which has been designed to control the wells revealed the efforts in that direction. The handling of sand was given as one of the outstanding problems.

D. L. Trax made a brief talk on the necessity for field men to so arrange their work that time saving will result. His remarks dealt largely with the proper relation of a foreman to his workmen.

The principles of a new turbine drill, which has been introduced into American oil fields from Russia, were explained by Robert R. Hawkins of The Texas Company. His remarks brought forth several questions from the audience.

Raymond Carr of Sinclair Oil & Gas Company spoke briefly on the value of field contact for engineering departments, as provided in the A. P. I. chapters of the division of production.

The meeting drew attendance of 141, many of whom came from cities and towns surrounding Drumright. Refreshments were served at the close of the program.

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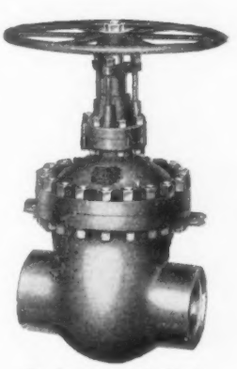

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Speculation on Ajax Connections By Mid-Continent Observers

TULSA.—Having accepted Standard Oil Company of New Jersey as the builder of the Ajax pipe line, the petroleum industry is now busy calculating how this new carrier system will work into existing systems and what effect it will have on Mid-Continent outlet for crude oil.

Writing the name of Standard Oil Company of New Jersey over that of Ajax Pipe Line Company, is a matter of pure speculation. Since the petroleum industry can not learn who is to build the line, it has placed it at the door of the New Jersey company by the process of elimination. The reasoning is—no other concern needs it or would build it, so it is the Standard Oil Company of New Jersey.

By other speculation, the petroleum industry is now connecting Ohio Oil Company with the venture. Whether Ohio Oil Company is interested financially is a little too much for speculation to solve. But the industry is convinced that the Ajax pipe line will connect with the Illinois pipe line system, Ohio Oil Company subsidiary, at Wood River, Illinois, and that Oklahoma crude oil will by the two systems, move both to the Atlantic seaboard and to refining plants of Imperial Oil Company, Ltd., in Canada.

That Ohio Oil Company would be interested in this form of transportation, is accepted, since Mid-Kansas Oil & Gas Company, Mid-Continent producing wing, is building substantial production in the Oklahoma City pool.

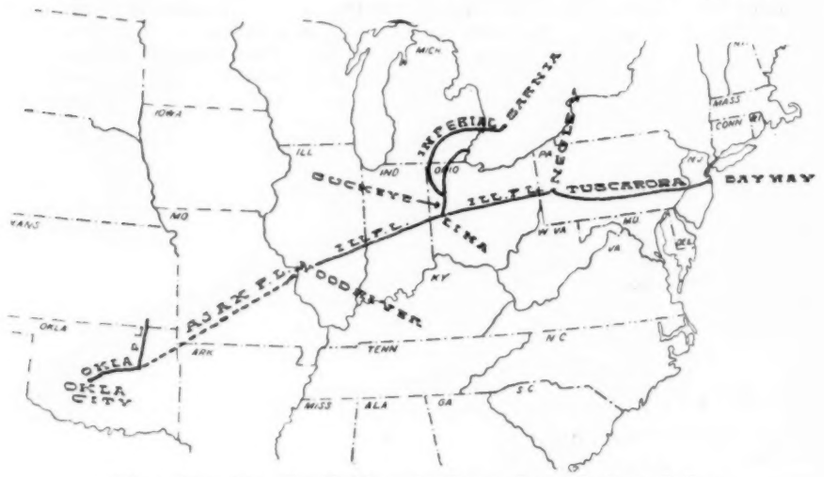
Present plans are for the Ajax line to start in the Glen pool district. Oil from Oklahoma City could be transported that distance by Oklahoma Pipe Line Company, the Standard Oil Company of New Jersey carrier system in Oklahoma. Beyond the offerings of Mid-Kansas, purchases by Carter Oil Company in the Oklahoma City pool, as well as in other Oklahoma areas, could be used to keep the line to capacity.

Deliveries from the Ajax line could be made to Illinois Pipe Line Company's western terminus at Wood River, Illinois. The Illinois system connects in turn with the Tuscarora at Negley, Ohio, and the Tuscarora system extends to the Bayway refining center.

At Lima, Ohio, the Illinois system connects with Buckeye Pipe Line Company. The Imperial pipe lines connect with the Buskeys system at Cygnet, Ohio, for delivery of Mid-Continent crude to the Sarnia, Ontario, refinery of Imperial Oil Company, Ltd.

What the petroleum industry, especially in the Mid-Continent area, has built is a picture of Standard Oil Company of New Jersey free of crude oil deliveries from Prairie Pipe Line Company. The Ajax pipe line system will accomplish that, for Prairie now connects from the Mid-Continent with the Illinois system at Wood River, Illinois.

So far the petroleum industry has never offered a plausible reason for the withdrawal of the Rockefeller group from both Prairie Oil & Gas Company and the Prairie Pipe Line Company. But the stock once held by the Rockefeller interests is now in the hands of the Petroleum Securities Corporation of America. Recent expressions of officials as to causes for conditions in the petroleum industry, leave no doubt of a hostility between the two companies. There has been talk each way and there was no doubt about what each intended to convey.



What Ajax Line Could Mean in Connections North and East

Low Prices and High Water Retard Production

(Continued from Page 42)

April, according to a report by the American Petroleum Institute.

Crude runs to stills during the week ending May 24, aggregated 18,112,000 barrels. This is a decline of 408,000 barrels and is the second successive decline reported. Unfavorable weather conditions have no doubt contributed to this decline, since it has been noted that gasoline stocks have shown a lagging rate of decline and registered a gain during the week ending May 17. Gasoline stocks reported by the American Petroleum Institute for May 24 amounted to 52,482,000 barrels, a decline of 838,000 barrels since May 17. A notable turn has been shown by refinery operations of the East Coast, where runs to stills have been materially reduced during the past few weeks. Since the week of May 3, this area has lowered still runs to the extent of about 25,000 barrels daily. At the same time, however, Texas refiners have increased runs to stills. Since May 3 still runs of Texas, refineries have shown a gain of about 85,000 barrels a day.

Possibilities of a systematic production curtailment program for disturbing areas in Texas being applied through the aid of the new pipe line and common purchaser law are to be thrashed out during a meeting of operators in Dallas May 29. This meeting is being sponsored by the Texas division of the Mid-Continent Oil & Gas Association, and active leaders of the Texas division of the Independent Petroleum Association, which was responsible for the new law being enacted, will be on hand.

Numerous fields in the interior of Texas are producing more crude daily than desired by the pipe line companies connected to them. This condition is having a tendency to weaken the crude price structure.

The prorated section of Howard-Glasscock County is an outstanding soft market spot in West Texas, while storing of oil for lack of buyers is taking place in the Judkins field. In North Texas the Olney townsite field is needing a larger market outlet to take care of current production, while both Humble Pipe Line Company and Sinclair Crude Oil Purchasing Company have shown an inclination to withdraw from Wilbarger County as important crude buyers.

Inadequate crude market relief prevails in a number of areas comprising the Panhandle, with small companies and operators forced to restrict their production while major crude purchasers are taking care of their own flush production in the Finley-Brown field, Gray County.

Louisiana--Arkansas Field Notes

Resume Operations As Flood Waters Recede

SHREVEPORT. — With Smackover and other South Arkansas fields that were partly inundated by high water a fortnight ago, emerging from the flood and cleaning off machinery to resume operations, North Louisiana districts, particularly those in Caddo and Red River Parishes, felt the effects of flood waters during the last week.

More than 800 wells in Smackover were inundated, but on Friday, May 23, only 509 wells were still shut down. The drop in daily yield in the heavy Smackover district was estimated at 10,000 barrels and in the light area at 1000 barrels.

Approximately 400 wells in the Pine Island and Dixie fields of Caddo Parish were still inundated Monday, May 26. Of this number, Gulf Refining Company had 215 under water. The Texas Company, 53; Standard Oil Company of Louisiana, 50; and the others miscellaneous. The Bull Bayou and Crichton districts are partly under water and it is estimated that more than 200 producing wells in those fields are inundated. No figures were available as to what companies' wells were inundated.

Paradoxically, the last week featured by inundation and high water in North Louisiana in the areas mentioned, added in other districts, particularly Zwolle and Cartersville, an unusually large number of dry holes in the list of completions.

Three dry holes were completed at Cartersville and one producer. Air Lift Oil Company and associates' Floyd Pleasant 1, Section 25-23-12, was abandoned at total depth of 3215 feet. E. W. Bateman abandoned Bolinger 1, Section 38-23-11, as a dry hole at 3252 feet, and Louisiana Petroleum Company's H. H. Bain 3, Section 31-23-11, was dry at 3276 feet.

No new locations were made in Cartersville aside from an old well in Section 5-22-11, southeast of production, which will be deepened. This test is Arkansas Fuel Oil Company's J. W. Wilkinson 1 which is down to 3068 feet.

In the blossom horizon of the Sarepta-Spring Hill area of Webster Parish, six miles east of Cartersville's Woodbine horizon production, Magnolia Petroleum Company is pumping 20 barrels of oil and 250 barrels of salt water from Scroggins 3, Section 1-22-11, at total depth of 2707 feet.

Seven dry holes and no producers was Zwolle's list for the week. A mile west of production in the Zwolle east field, Ray Dawes Drilling Company abandoned Mansfield Hardwood Lumber Company 1, at 2550 feet; Bahan & Ryan abandoned Meshel 1, Section 32-8-12, at a depth of 2570 feet; Henshaw and associates abandoned two tests in Section 31-8-12, Sabine A-1 at 2525 feet and Sabine B-1 at 2640 feet; Sabine Lumber Company quit Fee 1, Section 31-8-12, as a dry hole at 2610 feet; and two miles southeast of production Pelican Natural Gas Company abandoned Sabine 1, Section 17-12, as a dry hole at total depth of 2833 feet. The same company has derrick up for Sabine 2, in Section 12-7-12. Ohio Oil Company's Bowman-Hicks 1, Account 2, Section 6-7-13, between production in East and West Zwolle, was abandoned as a salt water hole at 2533 feet.

Besides Pelican Natural Gas Company's Sabine 2, there were two other new locations made in Zwolle during the week, both townsite tests in Section 31-8-12. Jones and associates have derrick pattern for Carson 1 and Wilder and associates have derrick up for Parrott 1.

One for De Soto Parish

The Standard Oil Company of Louisiana which recently bought out R. O. Roy's holdings in the Holly district of De Soto Parish, where the latter had a single oil well and one gas well, experienced the brightest spot of the week when its Dowling Brothers 1 (formerly Roy's Whittaker A-1), SW NE Section 5-13-13, a quarter of a mile southeast of Lee 1, NE NW Section 5-13-13, the discovery well, was completed at total depth of 2848 feet flowing for seven minutes at the rate of 3500 barrels daily when it was shut in to await building of storage. The well was later opened through a seven-sixteenth-inch choke and flowed 1021 barrels choked in for 24 hours. The test has 16 feet of sand. Six and five-eighths-inch casing was set at 2729 feet.

However, another test acquired by the Standard from Roy, his Lee 1, SW SW section 33-14-13, three-fourths of a mile northeast of the discovery well, was salt water with a show of oil at total depth of 2848 feet, sand having been topped at 2829 feet. Six and five-eighths-inch casing was set at 2732 feet. The producing horizon in Holly is the Woodbine. The Lee 1 topped the Nacatosh at 1235 feet.

Standard Oil Company made one new location in Holly during the week, McClanahan 1, Section 8-13-13.

W. G. Gray tested dry in Nulton 1, Section 6-7-12, in the Zwolle field, at 3665 feet in the Woodbine formation, in what was tentatively identified as the Austin chalk, after coring eight feet of the chalk showing light oil, is again intriguing those who look for deeper production in Zwolle. Gray has drilled his test to total depth of 4010 feet, having cored seven feet of sand showing oil at the bottom and is setting liner for a test. Whether the formation is still Woodbine or upper Trinity has not been definitely determined. Some believe it the latter, as Loring Oil Company—drilling lime at 3684 feet in Bowman-Hicks 5, Section 34-8-12, four miles to the northeast—encountered no Woodbine.

Nine Other Tests

Besides new Louisiana locations already mentioned there were nine other new tests projected during the last week, four being locations by Calatex Oil & Gas Company in the Greenwood district of Caddo Parish, where it borders the Panola County, Texas, line. Calatex Company, whose stockholders are for the most part ministers, has several gas wells on both sides of the line. This company also made a new location during the week in Panola County.

The Bisteneau salt dome area of Bienville Parish will have another test, Arkansas Fuel Oil Company having derrick up for Ashley 1, Section 15-16-10.

No new locations were announced in Arkansas. The newest and deepest Arkansas oil field, where trouble with salt water has been experienced in both producers there had a repetition of this during the week when Simms Oil Company swabbed Simmons B-1, Section 10-18-13, at total depth of 3537 feet. After swabbing fluid about 65 per cent salt water to within 300 feet of hole, it was decided to deepen the test. Southern Crude Oil Purchasing Company's Oliver 1, Section 11-18-13, is shut down at 2308 feet after testing one and a half joints of mud with a slight oil stain, from 2290 to 2298 feet and later testing dry from 2280 to 2308 feet. J. W. Olvey has temporarily abandoned G. G. Simmons 1, Section 10-18-13, at 3563 feet and may perforate at the 2200-2300-foot level. Lion Oil Refining Company has temporarily aban-

doned Ballard 1, Section 10-18-13, at a depth of 4501 feet in soft red beds.

Roy Davis and associates, who have been rigging up, waiting orders for some time at Henry and associates 1, Section 10-12-29, Nevada County, Arkansas, have abandoned the location.

In northwest Caddo Parish, Louisiana, R. W. Norton is drilling at 4880 feet in Hill 1, Section 33-23-16. This wildcat test created considerable interest when it first entered the upper Trinity zone, but later was shut down for some time.

Triangle Drilling Company, drilling another test to the upper Trinity in the Sugar Creek district of Claiborne Parish, where a two million-foot gasser was obtained in the 4500-4600-foot zone, is drilling chalk at 2350 feet in Caskey 1, Section 6-19-5w.

Evansville Investment Company has resumed drilling in Welsh 1, Section 2-14-8e, a wildcat in Franklin Parish, after being shut down at 4200 feet. The test is now drilling a hard brown lime at 4266 feet.

J. J. Kean, after bailing dry at 1698 feet in Monzingo 1, Section 27-18-8e, a wildcat in Webster Parish, is coring at 1715 feet.

Bear's Den

Great Falls, Mont.—Sunburst Oil & Refining Company is completing what is almost the discovery well on Bear's Den structure, in the Sweetgrass Hills area, Northern Montana. The initial discovery, really, was made more than a year ago, by the same company, and then shut in. The present well is higher structurally, and produced 7,300,000 feet of gas at 1815-1900 feet, and deepening to the Baskoo sand at 2310 to 2375 feet, it produced about 35 barrels of oil. The sand at the total depth, 2500 feet, is hard and tight and some operators believe that a shot would materially increase the production. This well definitely proves another field in Northern Montana. It is understood that the majority of the acreage is controlled by Sunburst Oil & Refining Company. Whether it plans to continue the development of the field is not known.

Big Muddy Operations

Casper, Wyo. — Weisman Big Muddy Oil Company has started its operations on the recently acquired lease in the Big Muddy oil field, east of Casper, in Converse County. The first well will be drilled to the shallow producing sand and saved for fuel-oil. A second well is to be a deep test to lower horizons. The new company is backed by Casper business and professional men.

Midway Dome Test

Casper, Wyo. — Saltmount Oil Company's test on Midway Dome, which is being drilled by Midwest Refining Company of the Saltmount account, has casing cemented at 215 feet and has been turned over to the rotary drillers who will now continue to the expected production which is not anticipated much before 5500-foot level is reached.

Jackson Area Suffers Setbacks During Past Week

JACKSON, Mississippi. — Despite the fact that another major oil company —Ohio Oil Company—entered the Jackson district during the last week, this area during the seven-day period suffered two setbacks, one being abandonment of a test as a dry hole and the other being salt water in a test when plug was drilled after oil had appeared in a sand below the chalk series where Jackson territory's gas is secured.

Ohio Oil Company has made location for School Board 1, NE NE Section 16-5-1e, and has secured permit from the city of Jackson to drill the test. This location is on a four-acre tract but Ohio Oil Company has several thousand acres around Jackson acquired by J. K. Kerr of Marshall, Illinois, in whose name the permit here was taken. All sixteenth section land in Mississippi belongs to the schools. This particular lease contains 641.84 acres for which the purchaser paid $320.92 in February, 1929.

One of the reversals sustained during the week was the result of the test of Jackson Oil & Gas Company's Taylor 1, Section 35-6-1e, when plug was drilled out at 2895 feet after 6⅝-inch casing had been set at that level with total depth of 2920 feet. The test showed water but was blamed on a defective casing seat. Swabbing failed to lower the water. Some gas showed along with the fluid. Eventually the fluid was shut off and the well deepened. It is now coring sand with streaks of shale at 2943 feet.

The belief has now arisen that the sand first encountered just above 2920 feet in which the test was made was coming from the basal Wilcox as a two-foot core immediately underneath this showed two feet of hard chalk. However, this is a mooted question. The bottom of the hole is certainly now out of the chalk series.

Louisiana Gas & Fuel Company operating in the name of Garner W. Green has abandoned Harris 1, Section 35-6-1e, at total depth of 3239 feet in igneous rock, as a dry hole. It is likely this company will make another location soon on the J. C. Tool land in Section 28-6-1e, also in Hinds County.

East of Pearl River in Rankin County, Mississippi, and only a few miles from this city's limits, Pearl River Oil & Gas Company has spudded in Littlefield 1, Section 12-5-1e. Elevation is 270 feet. This test is three-fourths of a mile northeast of Gulf Refining Company's Rainey 1, Section 13-5-1e. The latter test is now drilling igneous material at 3229 feet.

J. P. Evans, Shreveport oil operator, has transferred 720 acres in Hinds County, Mississippi, to Producers & Refiners Corporation of Tulsa, Oklahoma, a subsidiary of Prairie Oil & Gas Company. The consideration was $1 an acre. The land is located in Sections 5-5-1w, 12-7-1w, 34-7-1w, 24-7-3w, 3-6-1w, 1-6-3w, 28-7-1w, 4-6-1w, and 2-7-1w.

After drilling the test for over two years, P. J. McAlpine, contractor for Amory Petroleum Company's Hall 1, Section 8-13-17w, Monroe County, Mississippi, Amory district, has finally junked and abandoned the hole at total depth of 3045 feet. Amory Development Company will use the rig to resume drilling Bourland 1, Section 2-13-19w, in the same county, which has been shut down at 2912 feet with bailer in the hole.

Lauderdale Oil & Gas Company tested four fourbles of salt water in Lackey 1, Section 2-7-16e, Lauderdale County, Mississippi, Meridian district, at 3223 feet with sand tester, total depth being 3303 feet. The bottom four feet of the hole showed some oil in the sand. The test is now being reamed for another tester seat lower at 3296 feet in gumbo. The salt water is believed to have come from a depth around 3262 feet and it is planned to make the test lower to eliminate this.

After drilling at 830 feet after nine-inch casing was set at 818 feet the Dome Oil & Gas Company has drilled ahead in Elton 1, Section 5-4-1e, Hinds County, several miles south of Jackson, and is now drilling hard sandy lime rock at 1310 feet.

Universal Gas Company has taken over the Holliday and Ross 1 of Weir and associates in Section 8-6-2e, Hinds County, and is rigging up.

After being shut down a few days around 1400 feet, A. D. Morton and associates have resumed drilling at O'Neal Heirs 1, Section 8-2s-13w, Lauderdale County, Alabama, and the test is now in hard white lime at 1510 feet.

Osage Extended West

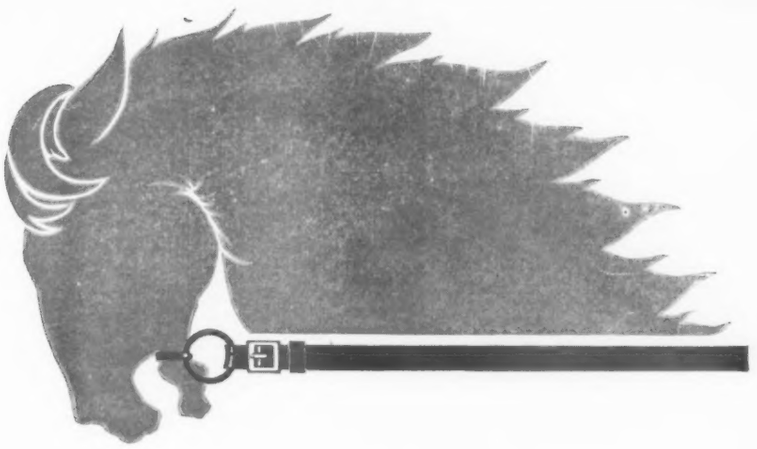
Osage, Wyo.—What seems to be another very good producer in the new west extension of the Osage field, Eastern Wyoming, is the well being completed by Curtis & Straitiff at 1600 feet, where considerable oil is evident even before entirely drilled in. This well is a direct offset to Osage Trust Company's big well which had an initial production of 1000 barrels.

St. Landry Wildcat Test

Houston.—Valmont Ledoux 1, the wildcat test of Elbof Explorations, Incorporated, on the geophysical prospect at Eunice, St. Landry Parish, has been abandoned after being shut down for several months in gumbo at 4362 feet. The test was in Section 14-6s-

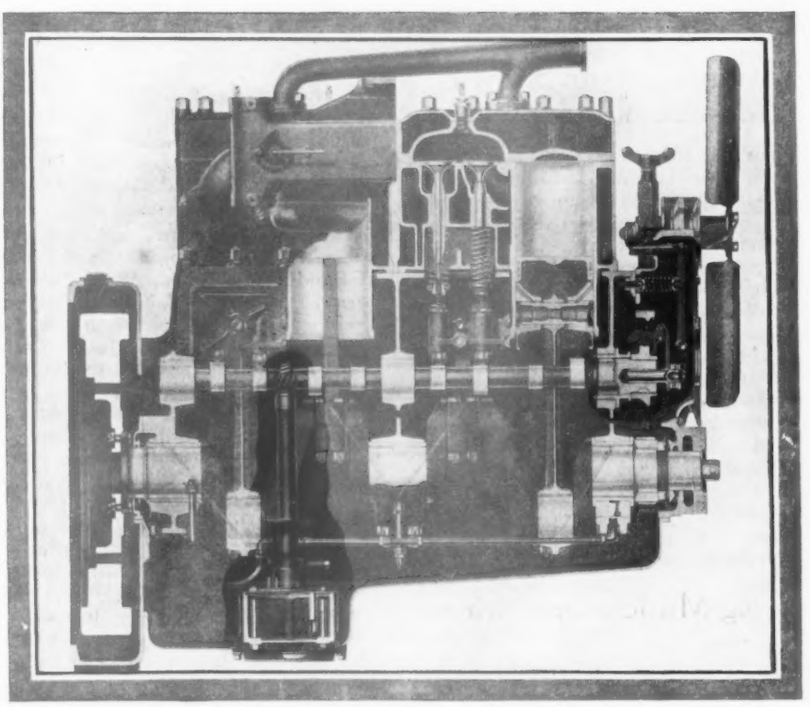
Buys Smackover Crude

El Dorado, Arkansas.—Beginning July 1, Standard Oil Company of Louisiana will take 2500 barrels of heavy Smackover crude daily from the Lion Oil Refining Company. The arrangement will continue indefinitely.



PROTECTION

THAT IS BUILT-IN



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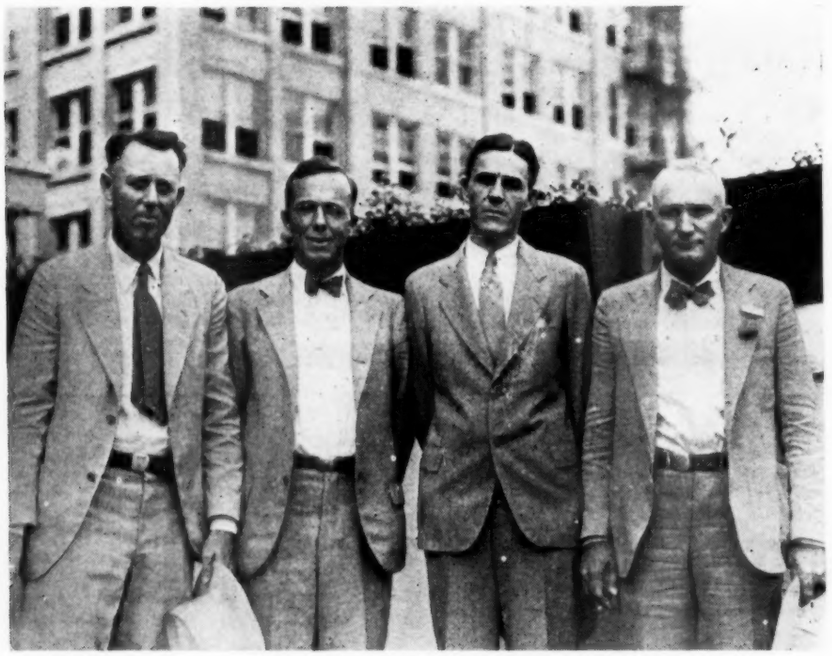


Left to Right: G. C. Phillips, J. E. Beall, J. V. Adams and W. E. Whitcomb

National Scouts Show Big Membership Increase

San Antonio, Texas.—W. E. Whitcomb, The California Company, San Angelo, elected chairman of the executive committee of the National Oil Scouts Association of America at the seventh annual convention here May 19-20, will call a meeting of that committee to determine the date and place of the 1931 convention. The method of choosing a convention place was changed at the meeting here by the by-laws to read "To determine the place and date of conventions as designated by a majority vote of the association's active members through proxies voted by members of the executive committee."

San Angelo made a strong bid for the 1931 meeting through an invitation offered by G. C. Phillips, new second vice-president of the association and scout for The California Company in the San Angelo district. Shreveport and Dallas also made appeals for the meeting next year, and apparently the convention place will be choosed from these three cities.

The "Swab," official organ of the association, was discontinued, effective with the meeting here, after it has resulted during its one year of existence as a financial burden to the association. A committee composed of J. V. Adams, new president of the association, W. E. Whitcomb, and P. G. Booth, retiring chairman of the executive committee, was appointed by retiring president, Ford Turner to consider and recommend a substitute for the publication—something that would be constructive and yet more reasonable for the purposes of the association.

Announcement at the meeting here of the death May 18 of Ben Bell, president of the Pandem Oil Corporation, Wichita Falls, recalled the early history of scouts association. He was the organization's first president in 1924, scouting for Sun Oil Company in the Wichita Falls territory.

The association grew out of a gathering held at Graham, Texas, the home of Buddy Hale of the Anzac Oil Corporation in 1923. Hale, Ben Bell and Sammy Semple, Prairie Oil & Gas Company scout at Eastland, Texas, promoted the organization to the point of a convention held at Mineral Wells in 1924. At that convention officers were elected and a move started for widespread membership. Fort Worth was named as the convention site in 1925, and the association grew to more than 100 members within a few months. San Antonio got the convention in 1926, Dallas in 1927, Amarillo in 1928 and Fort Worth in 1929.

Paid up memberships in the association have grown to 566 as compared with 315 last year, or nearly 100 per cent within the year.

Big Timber, Mont.—Shoshone Consolidated Oil Company has recently announced its intention of resuming operations at its test on Hamilton Coulee structure, where it has the deepest test in the state, standing at 5793 feet. This well has about 730 feet of open hole and at 4165 feet a water sand which has been responsible for filling the hole. At 4550 feet, in the lower Frontier, there is a gas showing which has been sufficient to heave water out of the hole, and it is this showing which the company plans to test as soon as the water is shut off. The location of the well is on a structure in Southern Montana.

Engineers Consider Economic Ills At Tulsa Meeting

(Continued from Page 22)

Mr. Davis concluded by suggesting that the national committee on drilling and production practices, consider as one of its major activities the subject of unitization and its practical application in the field.

Discussing Mr. Davis' remarks, Mr. Reeser stated that the greatest possible benefit would accrue to the small operator through unit operation and he urged that engineers study this phase of the subject with the view that they can show the smaller operator just what benefits can be accomplished under such a plan.

H. M. Stalcup, Skelly Oil Company, aptly expressed the sentiments of the speakers when he said: "that curtailment is an emergency means used to put out the house which is on fire; that unitization is a paramount preventive measure."

The new organization program of the institute, which has resulted in the formation of the three principle divisions covering production, refining and marketing, was reviewed by C. A. Young, national secretary of the production division who sees in the new plan better opportunities for handling the many problems of the industry.

Starting with the afternoon session Friday the meeting was turned over to the discussion of technical and engineering problem which were presented in the form of group papers and round-table discussion and reported elsewhere in this issue.

It was estimated that between four and five hundred, production men, engineers and executives were in attendance at the various sessions.

QUESTIONS

1. Of what significance is gravity in the recovery of oil?
2. What factors tend to retard the movement of oil in the formation to the well?
3. What factors control the production value of an oil lease?
4. When will oil shale mining be practical?
5. What is the curve method of estimating the petroliferous content of an oil-bearing formation?
6. What factors govern the rate of development of an oil property?
7. What is the significance of the camera in exploration work and subsequent development of an oil field?
8. What is the cosmic theory of petroleum derivation?
9. What constitutes distrophism?
10. What are the methods of recementing water strings when no oil string or liner are present?

(*For answers see page 76*)

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

California Curtailment Unchanged After Crude Price Is Cut

LOS ANGELES.—Following the recent slash in crude prices at Santa Fe Springs, little change has been noted in the status of curtailment, and at the end of the week it was anybody's guess what might happen next in this troublesome field. Operators who refused to reduce production to conform with the umpire's order, thereby bringing about the price change, remain firm in their stand and if some adjustment is not made, even lower prices for Santa Fe Springs crude are possible.

The tendency to produce the greatest possible amount of oil and yet stay "inside the law" apparently is growing and several operators are not entering into the spirit of curtailment as they should. Aside from the few who are admittedly holdouts, there are operators who are running line wells wide open, using enormous beans, producing with a high gas-oil ratio and otherwise morally violating the conservation program while producing only their allowables. This is being accomplished by running only a few wells at a very high rate and shutting in smaller inside wells.

One major company, having an excess of more than 1000 barrels daily for two and one-half months, threatened during the week to cause trouble, but is now back in line. Two companies have been absorbing large excesses for a long time and have agreed to continue the practice.

Following the advice of Paul Grimm, Santa Fe Springs umpire, contracts have been presented to operators for their signature. Grimm stated recently in an open meeting that in his opinion the only effective method was to obtain a written contract from the operator. This procedure will show the operator exactly what he is expected to do and will morally bind him to his obligation. The contract explains the state potential of 500,000 barrels and the six-months period it covers. Final draft of the contract has not been completed.

How long the wide differential between the prices of Santa Fe Springs crude and the same grades in neighboring fields can exist is a question. Such a difference cannot remain in force indefinitely. Either the situation at Santa Fe Springs must improve and higher prices posted or other fields must be pulled down to the same level, in the opinion of local economists. The discrepancy seems unjustified, but the law of economics will eventually step in and close the gap. Fields are too close together in the Los Angeles basin to permit a wide differential.

***LOS ANGELES.** — Developments at Santa Fe Springs almost suddenly took a more favorable turn late this week, with George F. Getty, Inc., one of the principal holdouts indicating that he will abide by the curtailment agreement now in effect. This places the field in line for a restoration of former crude prices.*

The Getty interests have also announced their willingness to reduce gas production from 66,000,000 cubic feet daily to 30,000,000 cubic feet daily, and the citation directed against them to appear in Superior Court to show cause why they should not be punished for gas waste has been vacated.

The recent price reduction has been termed "strong arm" methods by some who are opposed to discriminatory action against operators who will not comply with curtailment measures. The price reduction is a direct thrust against holdouts and has been sanctioned by conservation leaders. A price reduction probably was warranted at Santa Fe Springs more than a year ago but failed to materialize because better days seemed just around the corner.

Stocks Decrease

April stock decrease of 1,777,619 barrels was a significant development and not entirely unexpected. Heavy crude stocks, including all grades of fuel, tumbled 925,000 barrels, with refinable crude stocks dropping 334,000 barrels. Gasoline stocks decreased 327,000 barrels. Total stocks in California now stand at 187,192,759 barrels, of which 112-198,691 barrels is heavy oil, 44,475,703 barrels light oil, 18,046,275 barrels gasoline, 3,832,-736 barrels naphtha distillates and 8,639,-354 barrels other products.

There has been no further definite action on the plan to divide stocks into three groups and force reductions over a long period. All grades of petroleum stocks are too high and will be reduced in about the same ratio until a finer division is required. Fuel oil and gas oil embrace one group, refinable crude another group and gasoline a third division. Ultimately it is planned to have on hand the least possible amount to meet immediate needs. Production will be brought to a level which will insure inroads into stocks, if the plan is carried out as originally drawn.

California's curtailment setup depends largely upon the view taken of the scheme to control production and the general market structure. Conservation leaders contend that it will be only through a lower production that the industry can reach a firm footing. The day-to-day producers and refiners who are opposed to curtailment have advanced the argument that needs should be filled principally from current production and that fields should be allowed to produce naturally and unrestrained. This argument seems inconsistent and does not take into consideration the fact that increased stocks will result from wide-open methods.

The bulk of the 185,000,000 barrels of stocks held in storage in California is owned by a few companies. They are naturally anxious to convert these huge stocks into money by curtailing production and drawing on storage at a rapid rate. If over-production continues and these stocks are carried, these major companies will not only suffer by inventory losses but will be forced to accept lower prices for their refined products. If stocks continue to climb, there is no way to maintain an artificial price structure. The house is bound to fall in some day, the question being whether it is better to continue an artificial condition until the crisis is past or to reduce light oil prices and let nature take its course (and toil) through the law of supply and demand.

Majors Versus Independents

There is still the inevitable gap between the major companies and the holdouts. The majority of independent producers are lined up with the majors. The argument of the smaller companies that the majors are getting the best of everything has some merit, but there is no way to get away from the fact that while the major company is prospering the smaller company is also prospering, and while the major company is losing money the small independent company is in a deplorable state. The major companies are the backbone of the industry, and while

California Proration

Los Angeles.—Below is a detailed report of fields under the supervision of Umpire H. P. Grimm:

	Estimated Potential May 15, 1930 B/D	Approximate Allotment B/D	Production May 22
Group No. 1—			
Elwood	93,000	48,737	49,042
Kern Front	22,500	11,792	11,595
Maricopa Flats	22,000	11,530	12,778
Mount Poso	22,300	11,686	9,090
Round Mountain	11,500	6,026	5,481
Santa Fe Springs	209,625	104,716	112,894
Ventura Avenue	87,700	45,961	47,077
Total	468,625	240,448	247,957
Group No. 2—			
Belridge	2,200	2,200	1,915
Capitan	760	152	40
Coalinga	33,150	9,945	9,925
Elk Hills	27,220	16,332	19,675
Fruitvale	8,600	5,160	2,258
Inglewood	22,700	18,160	17,158
Kern River	12,200	2,440	2,630
Lawndale	500	500	225
L. A. and Salt Lake	1,500	1,500	1,500
Lost Hills	6,540	327	325
McKittrick	4,800	3,840	4,320
Midway-Sunset	89,600	53,760	51,544
Montebello	9,100	7,280	6,214
Playa Del Rey	3,600	2,160	3,050
Potrero	4,400	4,400	4,700
Rincon	3,800	3,800	3,870
Santa Barbara	60	60	....
Santa Maria	10,200	1,836	3,130
Summerland	400	400	325
Ventura-Newhall	6,100	5,185	4,990
Watsonville	60	60	60
West Coyote	11,000	8,800	7,399
Wheeler Ridge	620	620	600
Whittier	1,500	1,500	1,400
Total	260,610	150,417	147,253
Group No. 3—			
Kettleman Hills	68,000	13,600	15,378
Grand Total	797,235	404,465	410,588

it is only reasonable to suppose that they will dominate the situation, it is probably better to follow them than to oppose them.

The question of stock reduction bobs up at every turn and it is the surplus that is worrying everybody—except those companies that have no surpluses. With such an enormous quantity of petroleum products on the surface, it is no wonder the major companies become panicky when overproduction is mentioned. This means plain capital assets to them and it is up to these large companies to protect them. A drop in the price of oil would automatically reduce the value of stocks by perhaps $50,000,000.

Maintenance of the crude price structure is important to marketing companies, because a state-wide slash in prices would be the direct cause of throwing cheap gasoline on the market. Smaller refiners could obtain a large supply of cheap crude and work it up into correspondingly cheap gasoline. When the major companies see their profits shrink by what they term "underhand" practices, something is liable to happen. The situation reverts itself back to the theory, however, that it is better to permit the majors to make a legitimate profit, and at the same time create good times for the smaller company, than to force the larger company to operate on too small a margin and place the small independent in line for bankruptcy.

Somebody Must Pay

Somebody is going to pay for carrying surplus stocks in California. Either the companies are going to pay through absolute losses in converting stocks into refined products or the public will pay through legitimate consumption. A gradual reduction of stocks seems the most logical course to pursue. Rapid reduction would benefit the companies holding the stocks but would damage the companies having to purchase current production. Failure to reduce at all would harm companies controlling the surplus and create a free supply to the day-to-day purchaser, but conditions probably would be bad enough to prevent anybody from making a profit. The most reasonable course would cause a reduction without lowering production to a point which would work a hardship on companies not having large storage facilities.

The storage problem started about 15 years ago, when the shortage jag-boo was at its height. California companies started preparing for an oil exhaustion with the construction of tanks and holders of every description. These tanks and reservoirs, for the most part were filled as they were built. A few years ago these same companies awakened to the fallacy of an oil shortage and started wondering how they could reduce stocks instead of increasing them. Meanwhile, overproduction continued and oil kept going into the tanks. The surplus crept up until now it has become top-heavy and is the cause of present conditions. It would have been much better had tankage been half the present capacity.

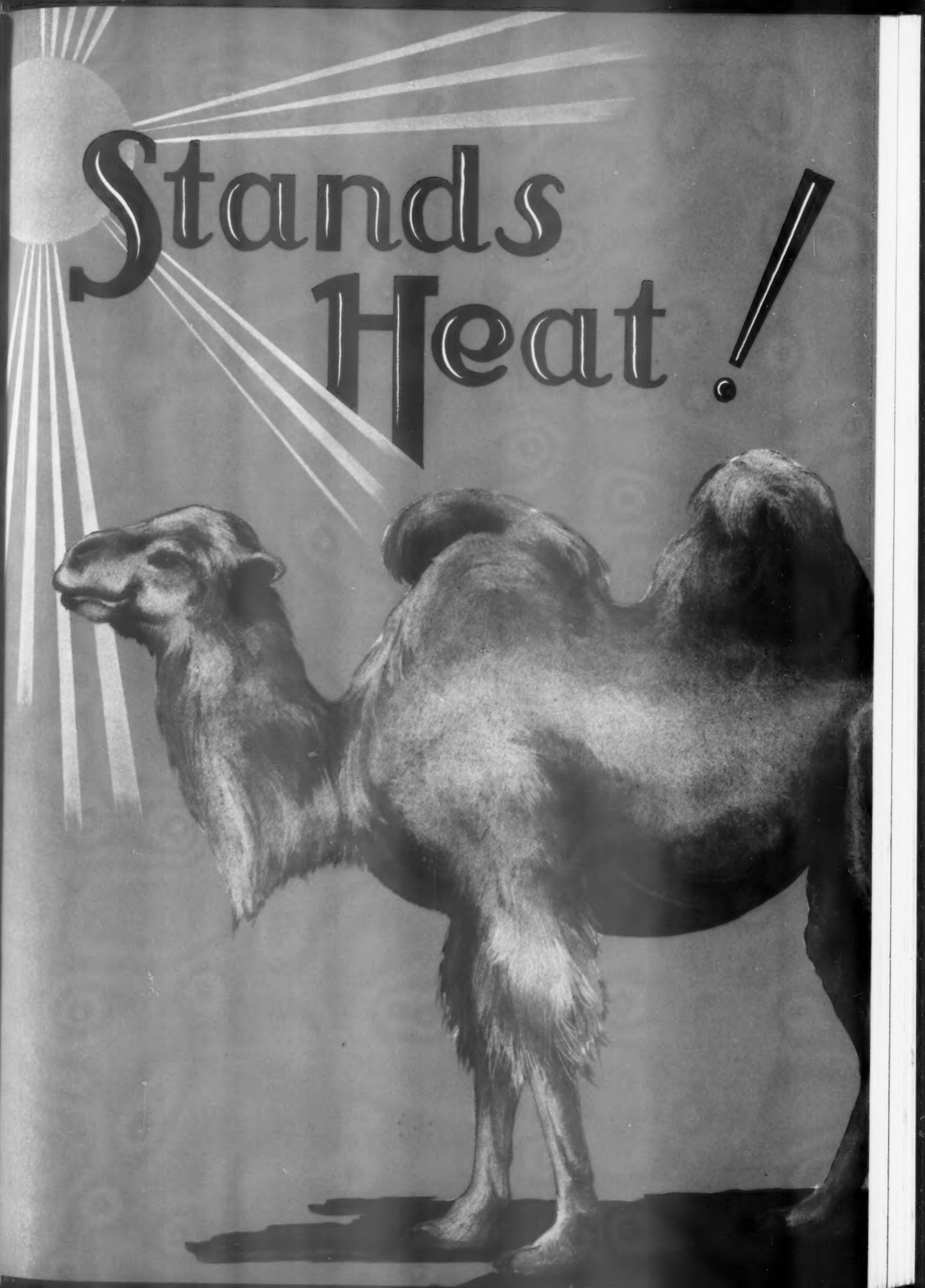
Crude oil prices would have been slashed long ago, had it been possible to maintain a reasonable price for gasoline. This commodity has become the backbone of the oil industry and if it is not being sold at a profit, balance sheets assume a very puny appearance. When crude prices are cut, large producers are not hurt. It is equivalent to taking money out of one pocket and putting it into another, all other conditions remaining the same. But a reduction in crude prices immediately affects the gasoline market, and all large producers in California are also large marketers of gasoline. Therefore, a crude reduction is a back-breaking operation. It has been difficult enough to maintain gasoline prices with crude oil at the higher prices, and it is conceded that lower oil prices in the principal fields will be reflected in poor market conditions for gasoline.

Potential Substantially Lower

Some criticism of the methods employed in arriving at the state potential has been heard, some engineers claiming that the 1,100,000-barrel total now in use is far too high. There is little argument against the theory that the state potential is lower than at the first of the year. Estimates of an absolute potential of 900,000 barrels are being made, with other guesses running up to 1,000,000 barrels. Holding the potential above the figure used six months ago is irking a few engineers who believe that the state has passed its peak and is safely on the downgrade. Apparently two advantages are gained by placing the potential at such a high figure, according to a leading geologist. One serves to keep the dangers of overproduction fresh in the minds of operators, while another makes the present 620,000-barrel output appear somewhat lower than it really is. The 125,000-barrel drop at Santa Fe Springs was offset by gains in other fields, according to the latest potential sheet made public. There is a well-founded belief that other fields could not have made up this difference and that the state potential has gone down sharply since January 1.

Distribution of Santa Fe Springs' excess among other flush fields is expected to overcome the difficulty in ultimately reaching the 596,000-barrel allowable recently established. All Santa Fe Springs operators but those not cooperating have agreed to hold production to the allowable but several are opposed to absorption of all field excesses. The excess is running around 12,000 barrels above the allowable, with a field total of 119,000 barrels.

Operators in fields along the east side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of the San Joaquin Valley have agreed to assume a part of overproduction at Santa Fe Springs by reducing another two and one-half per cent. The entire valley is staying well in line, despite the fact that Los Angeles basin fields are responsible for the excesses.

An order citing George F. Getty, Inc., to appear and show cause why he should not be held in contempt of court for violation of the present restraining order at Santa Fe Springs has been issued by Judge Hazlett, who also granted the preliminary restraining order. The writ is returnable May 21. The Getty interests probably will apply for a writ of prohibition in the district court of appeals in an effort to offset the citation and nullify the original restraining order as far as their individual company is concerned. Wilshire Oil Company group is now protected by such a writ.

General Petroleum Corporation, tired of curtailing production while the Getty interests are operating wells wide open, has asked the Superior Court for a modification of the injunction.

California has not been faring very well in its suit against Long Beach operators to stop gas waste, efforts to get in necessary evidence having been met with vigorous opposition by attorneys for the holdouts. Superior Judge Crawford has sustained many of these objections and ruled out much evidence. Sentiment against curtailment in the Long Beach district is more pronounced than in other parts of the state, with the exception of Kettleman Hills and Ventura, many small operators contending that to shut in their wells would result in disaster to their revenues.

Active Tests At Santa Fe Springs Down to 45

Los Angeles.—The decline of drilling operations at Santa Fe Springs has carried the number of active tests to 45 and of this number nearly half are being re-worked. The slump in activity since January first virtually amounts to a collapse of field development and only production in the Hathaway zone at some point between the Clarke sand and 9000 feet will revive drilling.

A dozen wells are nearing completion in the Clarke zone, with seven drilling below this formation and eight making hole at some shallower depth. Reworked wells include those being deepened and plugged back for various reasons. Failure of a few wells in the Clarke zone has resulted in plugging back to the shallower sands, while several of those dying in the upper sands have been deepened.

Production declined sharply during the week, but the natural field decline did not account for the drop. Union Oil Company and other operators shut in and beaned back several producers in the Nordstrum zone, the company named leading the movement by shutting in about 6000 barrels.

About 315 wells are producing in the deep zones, average production being about 340 barrels. Field production has dropped to 117,000 barrels and there should not be a material increase because of flush production.

Average initial production of the seven wells completed last week was only 60 barrels, the lowest figure of any period since the beginning of deeper drilling operations. Water trouble and low gas pressure have combined to force a small initial production.

All of the very deep tests have resulted in failure because of inability to secure water shutoffs. Cementing at depths up to 9000 feet has proven a very delicate operation and there is no positive way to determine reasons for the failures. There is still a chance for production below the Clarke zone but such a zone probably would be small in lateral extent.

California Permits for New Wells Increase

San Francisco.—Permits granted for drilling new wells in California took a decided spurt during the week, 27 notices to drill having been filed with the state oil and gas supervisor. This brings the total new wells this year to 299, as compared with 543 at the same date last year. Whether the gain of last week over the previous weeks will continue is a question, but future weeks probably will show a much smaller average. The wide distribution of wells during the present year has been an outstanding development, where those of last year were bunched chiefly in the critical fields. New wells started this year will fall far short of the 1929 total unless unexpected developments occur.

Mud Bridge Adversely Affects California Wildcat

Taft, Calif.—Discovery of a mud bridge at 4975 feet in Belridge Oil Company's No. 15, or at a point about 40 feet below the shoe of the 6⅝-inch casing, may offer an explanation for the poor showing the well made on a recent production test. More hole will be made and extra precaution taken to prevent damage from mud and weight material before another test is made. This is regarded as the most important wildcat test in California, having found gas and a small quantity of light oil in the top of the Temblor zone, the sand which is producing 61 gravity oil at Kettleman Hills.

Rincon Tideland Test

Ventura, Calif.—Completion a week ago of General Petroleum Corporation's Ferguson 1, a tideland test in the Rincon field, has created a difference in opinion concerning the importance of ocean drilling offsetting the mainland leases. With an initial production of 1050 barrels of clean oil from 3447 feet, however, the possibility of much larger wells will give the tentative drilling program additional momentum. The first oil sand was found considerably shallower than in the mainland producers, proving that the structure rises as it extends into the ocean. Richfield Oil Company has made a location for a tideland well and will build a pier for the test at once.

Hope for Drilling Activity at Kettleman Hills Revived

Coalinga, Calif. — Location for three wells have been made at Kettleman Hills, breaking the monotony of the past two months and reviving the belief that an extensive drilling campaign will emanate from the district adjacent to Petroleum Securities Company's Felix lease. Standard Oil Company has started a well on Section 35-21-17, Petroleum Securities Company has made a location on the same section, while Shell Oil Company is starting a well on Section 36-21-17. All of these locations are the direct result of the completion of Petroleum Securities Company's Felix 1. These new wells should not necessarily result in an endless chain of offsets, as was formerly feared.

General Petroleum Corporation has reached a depth of 7630 feet in Oeshner 2, cores showing very hard sand. This is the deepest well in the field and has opened a large body of oil sand.

Aside from the new locations, field work has shown little change, four of the five drilling wells nearing completion.

Torrance Deep Test

Los Angeles.—Superior Oil Company has started a deep test in the Torrance field, choosing Torrance 63 as the well best suited for deeper drilling. Former bottom of the hole was about 4800 feet. The test is considered important, just as any deep test in a Los Angeles basin field is important. The Torrance field covers an immense territory but has not produced in a very satisfactory manner. Sand and water have been a source of trouble since the field was discovered.

Summerland

Summerland, Calif. — Completion of William Inskeep's Meyer 1, on the Meyer ranch, extended production in the Summerland field about one-fourth mile and probably will be the cause of additional drilling between the field and Montecito. Initial production was only 125 barrels but a completion depth of 1535 feet is considered significant. The oil is 19 gravity and not desirable for lighter products.

Additional Gas Lines Under Construction

Los Angeles.—The growing need for fuel in the Los Angeles basin and the possibility that the fields now supplying natural gas will show a steady decline have caused a movement to build additional trunk lines from other districts to Los Angeles. All cities in the Los Angeles basin are piped and equipped for natural gas and every effort will be made to furnish a full supply of this type of fuel. Gas from the Elwood and Kettleman Hills districts will be available for use in Los Angeles and vicinity, following the need of greater quantities than the present sources can furnish.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Trevelyn Oil Co., Spigner 2, ne sw nw 24-1s-3w	380	2508
COTTON COUNTY—		
Harris & McNeal, Chambers 4, sw c nw nw sw 1-2s-10w	100	2206
Shasta Oil Co., Patterson 10, ne c sw nw 1-2s-10w	40	2219
Shasta Oil Co., Chambers 2, cnl s½ nw sw 1-2s-10w	40	2219
Baldwin & Sultan, Patterson 3, se c nw nw 1-2s-10w	40	2219
Shasta Oil Co., Burneaugh 6, ne c se ne se 2-2s-10w	75	2216
Slogan 13, se c ne ne 2-2s-10w	75	2203
Burneaugh 2, se c ne se 2-2s-10w	90	2193
Cobb 5, ne c se ne 2-2s-10w	100	2200
CREEK COUNTY—		
Quackenbush et al, McIntosh 1a, c ne nw 26-18-7e	¶5½	2093
Chestnut and Smith, Boling 1 se c nw sw 27-17-12e	¶1½	1776
Transcontinental Oil Co., Humphry 1, sw c ne 15-16-9e	15	3005
George Whitman et al, Smith 1, ne nw sw 11-14-10e	¶5	2605
A. A. Bailey et al, Foster 1, nw c ne 19-19-9e	*	3105
Deitz and Gilpin, Goat 2, nw c sw se 31-18-11e	*	2156
Independent O&G et al, Davis 1, se c nw se 20-18-8e	*	3651
Operators Oil Co., Thompson 1, ne c se 26-16-10e	*	2695
GRADY COUNTY—		
Oklahoma Gas Utilities Co., Warren 1, se c ne nw nw 36-4-8w	¶7	2182
MUSKOGEE COUNTY—		
J. M. Foltz, Mackey 2, ne c sw ne sw 9-15-18e	150	993
Spaulding 2, se c nw ne sw, 9-15 18e	30	883
C. O. Buckles et al, Barnett 6, c nw ne se 8-15-15e	20	1683
J. L. Haner, Stedham 6, nw c ne ne se 8-15-18e	*	994
T. E. Wheeler et al, Harred 1, ne nw nw 24-15-17e	*	1354
OKFUSKEE COUNTY—		
Champlin O&R Co., McGilbray 1, sw nw ne 18-12-11e	40	2846
Wells and Downs, Stilwell 2, ne c, 14-10-11e	45	2121
Minnehoma Oil Co., Fields 5, se ne ne 24-11-11e	*	4180
OKMULGEE COUNTY—		
J. L. Selby, Anderson 34, nw ne nw 35-14-14e	25	1130
L. Neal, Simmer 2, c se se, 4-12-13e	*	3050
OKLAHOMA COUNTY—		
I. T. I. O., Salesman 2, nw c nw, 32-11-2w	4205	6506
Sinclair O&G Co., Venel 4, nw ne se 31-11-2w	9640	6641
Skelly Oil Co., Hoopes 6, ne c 31-11-2w	2058	6385
T. B. Slick et al, Hoopes 3, se sw ne 31-11-2w	¶192-9284	6619
I. T. I. O., Borden 1, ne se se 23-11-3w	4160	6599
Brokaw 4, ne se ne 13-11-3w	9278	6404
Wirt Franklin Pet. Corp., Lowery 5, nw c 12-11-3w	9722	6510
Cromwell-Franklin Oil Co., Trosper Park 18, sw nw sw 12-11-3w	14,428	6403
I. T. I. O., Ferndale Community 2, se c ne 11-11-3w	8284	6539
OSAGE COUNTY—		
I. T. I. O. 427, se c ne 6-25-11e	¶3	1868
Smith Leahy et al, 1, sw c 10-25-9e	10	2097
W. D. Gray, 2 nw c ne, 3-23-8e	15	2277
Pueblo Pet. Co., 1, ne nw nw 14-21-8e	45	2289
Continental Oil Co., 1, nw se se 24-24-5e	*	3549
Kay County Gas Co., 1, cnl sw sw 28-24-4e	*	3960
Peters Petroleum Co., and P&R, 1, sw c ne 5-22-8e	*	3100

Tabulation and Comparison on Page 42

Company, Well and Location	Initial Production Bbls.	Depth
PONTOTOC COUNTY—		
Dixie Oil Co., Roper 1, nw se nw 32-5-33	160	2554
Benedum and Trees, Mole 8, se nw ne 31-5-5e	150	2646
Coker 2, nw c 31-5-5e	150	2498
Malley 2, sw c 30-5-5e	200	2630
American O&R, Robertson 6, se c sw, 19-5-5e	150	2462
POTTAWATOMIE COUNTY—		
Magnolia, Billington 6, sw nw ne 22-7-4e	¶11	4160
Billington 7, se ne nw 22-7-4e	¶1½	3685
Singletary 2, sw se sw 15-7-4e	14	3722
SEMINOLE COUNTY—		
Amerada and Dixie, Scott 3, nw c 30-9-6e	125	4199
Burke-Greis Corp., Powell 1, sw ne se 7-9-6e	240	4305
Gypsy, Hulbutta 2, se sw sw 14-9-5e	160	4245
Amerada et al, Edwards 3, nw ne ne 22-9-5e	1765	4231
Flake and Wilson, Douglas 1, ne sw ne 30-8-8e	240	3268
Mid-Continent Pet. Corporation, Smith 16, nw c se 5-7-7e	310	3199
Smith 17, se sw ne 5-7-7e	475	3225
Sinclair O&G, Phillips 11, nw ne se 5-7-7e	590	3251
W. B. Pine, Bean 3, ne c sw 13-7-6e	360	4231
Magnolia, Cokler 3, nw sw se 13-7-6e	255	4167
Twin State Oil Co., Charley "A" 2, sw ne ne 20-6-6e	5570	2962
Shell Pet. Corp., Caesar 1, nw se se 20-6-6e	5027	2938
Dixie Oil Co., Griffin 2, sw ne nw, 17-6-6e	10	2883
W. B. Pine, Charty 1, ne nw sw 16-6-6e	6622	2874
The Texas Company, Reed 1, se nw ne 23-5-7e	585	4239
Lewis 3, nw se nw 13-5-7e	540	4291
Gypsy, Taylor 5, se c sw, 19-9-6e	*	4293
Hepsey 1, sw se nw 21-6-6e	*	3688
Twin State Oil Co., Charley "A" 1, se ne ne 20-6-6e	*	2923
Empire O&R et al, Rogers 1, sw c nw 9-6-6e	*	2655
Sunray Oil Co., Joanna 2, sw nw sw 24-5-7e	*	4095
STEPHENS COUNTY—		
Wirt Franklin Corporation, Mullen 1, se ne se 9-2s-6w	*	3000
TULSA COUNTY—		
A. B. Cory, Rentie 1, ne c nw, 31-19-10e	*	2915

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Barbara Oil Co., Alexander 2, c nw nw 24-33-13w	¶27	4463
BUTLER COUNTY—		
Empire O&R, Koogler 97, nw c se 20-26-5e	75	2609
Durham et al, Durham 1, sw se se 16-29-4e	*	3336
EDWARDS COUNTY—		
Barnsdall, McCarthy 1, nw c ne 31-25-17w	240	4542
ELLIS COUNTY—		
Davis et al, Weiland 4, sw ne ne 1-13-16w	190	3083
GREENWOOD COUNTY—		
Derby Oil Co., Beavers 3, c sw se, 25-24-12e	30	1669
Braden et al, Wigler 2, ne nw se 22-22-13e	*	1865
Derby Oil Co. et al, Burke 1, ne nw nw 36-23-8e	*	2650
Empire O&R, Patterson "B" 3, sw se nw 36-23-11e	*	2015
Harwood Oil Co., Good 1, sw nw ne 36-25-9e	*	2152
LYON COUNTY—		
Aladdin Oil Co. and Phillips Pet. Co., Ratcliff 1, sw c 29-20-10e	*	2473
MARION COUNTY—		
Chase County Gas Co., Wise 1, ne c se 36-19-5e	*	1040
McPHERSON COUNTY—		
Gypsy, Krehbiel 4, nw c sw, 3-21-3w	845	3449
E. W. Marland, Inc., Morehouse 2, nw sw nw 3-21-3w	835	3418
Sinclair O&G Co, Morehouse 2, ne se ne 4-21-3w	915	3391
Mid Kansas O&G, Voshell 5, nw sw ne 9-21-3w	720	3410
Voshell 6, sw c ne 9-21-3w	1265	3390
Shell Pet. Corp., Stucky 7, se sw se 9-21-3w	845	3388
Gypsy, Stucky 1, se c sw 4-21-3w	100	3469
Sinclair O&G, Voshell 1 (owdd) sw nw nw 10-21-3w	200	3429
Helmerick, Payne et al, Kaufman 1, nw ne nw 22-21-3w	*	3554
E. W. Marland, Inc., Krehbiel 1, nw sw se 10-21-3w	*	3585
MORTON COUNTY—		
Argus Production Co., Armstrong 1, cnl s½ n½ nw 16-34-39w	¶15	2932
RUSSELL COUNTY—		
Empire O&R, Dillner 1, nw c 36-13-15w	160	3308
Mid West Exploration Co., Dortland 36, se c 5-14-15w	40	3071
SEDGWICK COUNTY—		
Mars Oil Co., Miller 2, ne se sw 2-2-26-2e	20	2900
Barnsdall et al, Rapp 2, nw c 22-26-2e	60	2955
T. C. Johnson, Petrie 1, sw c se 35-26-1w	*	3542
Hays et al, Haldick 1, (owdd) sw se sw 15-26-2e	*	3247
STEVENS COUNTY—		
Argus Production Co., Hicks 1, c se, 12-34-39w	¶5	2830
Argus Production Co., Parker 1, c ne 30-34-36w	¶5	2890
Hobble 1, c se, 17-32-37w	¶9	2883
Smith 1, c sw, 13-33-37w	¶5	2891
McNabb et al, Reamy 1, c sw sw 11-33-38w	¶6	2786
Argus Production Co., Christopher 1, c sw 11-33-39w	¶12	2780
SUMNER COUNTY—		
Harris and Haun, Welch 1a, (owdd) sw c se, 9-34-1e	*	4270

EASTERN STATES

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
ST. CLAIR COUNTY—		
The Ohio Oil Co., Frye 1	80	737
Ellis, Thomas & Co., I. C. Railroad 1	*	575
McDONOUGH COUNTY—		
W. E. Rollston, Williams 1	*	380

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Eureka Oil & Gas Co., Eadus 1	200	1675
Witt & Wyant, Inc., Fenner 5	200	2058
ISABELLA COUNTY—		
The Dixie Oil Co., Davis 2	250	4500
LAKE COUNTY—		
Day & Patterson, Davis 1	*	[illegible]
Estes & Co., Kellogg Ranch 1	*	3445
OCEAN COUNTY—		
Sankey Oil & Gas Co., Bean 1	*	3680
North American Trust Co., Iroquois Oil 1	*	2520
Iroquois Oil 2	*	2500
KALKASKA COUNTY—		
Dixie Oil Co. & Co., Unknown tr. 1	*	565
VAN BUREN COUNTY—		
Wolverine Oil & Dev. Co., Vought 1	*	
Gibson, Johnson & Dixie Oil Co., Kroeke 1	*	

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PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
R. M. & J. George, Bingham 411, tr. 41	3	....
L. F. Kinley & Co., Mantz 60	2	....
Lane & Co., Bingham 371, tr 64	2	....
H. E. Camp & Co., Bingham 21	3	....
Barry Estate, Givins 7	4	....
Healey Petroleum Corp., Quintruple 16	2	....
Quintruple 17	2	....
Alma B. Collins, Bingham 577, tr 2	4	....
T. H. Givin, Givin 2	12	....
T. H. Kerwin, Barry 2	2	....
Bradford Producing Co., Mitchell 2	3	....
Minard Run Oil Co., Stoddard 1	2	....
Bell 6	12	....
Smith & Letson, Sikes 1	2	....
Fure Penn Oil Co., Kinley 1	3	....
W. E. Burdick & Co., Kinley 1	5	....
Melvin & Towne, Fee 21	7	....
Pringle & Korner, Haven 1	7	....
Hazlewood Oil Co., Lot 1, tr 63	3	....
Lot 1, tr 64	3	....
South Penn Oil Co., Whipple 156	2	....
Havens 1	2	....
Associated Producers Co., Bingham 581, tr 1	2	....
E. J. DeGolier, DeGolier 1	2	....
Brink & Lincoln, Fee 1	2	....
Walker Bros. & Co., Dean 1	4	....
N. D. Gibson & Co., Gibson 1	3	....
Iona D. Miller & Co., Quintruple 4	2	....
Dodge & Hilliard, Fee 1	4	....
H. J. Walter, Kinley Oil 7	2	....
Kinley Oil Co., Schenfield 21	3	....
W. M. Howard, Quintruple 1	2	....
W. T. Piper, Borden 13	3	....
Bradford Producing Co., Weston Jr. 69	2	....
Weston Jr. 70	2	....
T. P. Thompson, Jr., Borden 21	3	....
BUTLER COUNTY—		
Crawford & Gregory, Fee 1	2	....
J. R. Robbinson & Co., Robinson 4	2	....
Groff Bros., Groff 1	¶½	....
Saxonburg Light & Heat Co., Alderson 1	¶½	....
Cunningham 1	*	....
VENANGO—CLARION COUNTY—		
F. C. Deemer, Berlin 1	2	....
Meherten & Co., 24	2	....
M. L. Weaver & Co., Weaver 1	*	....
Fryburg Motor Co., Bush 9	¶½	....
Sandy Creek Oil & Gas Co., Hill 1	¶½	....
Hogback Oil Co., Whitling 2	2	....
John L. Gillingham, Fee 3	2	....
C. F. Hitchcock, Nicklin 47	2	....
Turner & Son, McMullen 10	2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
N. V. V. Franchot & Co., Herrick & Co. 38	5	....
Fries 39	5	....
O. A. Eastman & Co., Eastman 3	5	....
Miller Bros., Miller 1	5	....
Ryder-Richmond Oil Corp., Fee 81	3	....
Fee 82	3	....
F. H. Stephan, Trustee, Stephan 1	3	....
Shinglehouse & Co., First Nat. Bank 9	3	....
C. H. Lavans & Co., Lavans 1	4	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
GILMER COUNTY—		
C. B. Lewis & Co., Ames 2	20	....
Park Bowser, Mitchell 3	*	....
HANCOCK COUNTY—		
R. J. Braden & Co., Brenneman 39	2	....
RITCHIE COUNTY—		
Herbert Flannagan Co., DeVaughn 1	¶¼	....
Vaughn 1	¶¼	....
MARION COUNTY—		
Sutton Bros., Straight 1	¶1¼	....
LINCOLN COUNTY—		
Priedmore & Adkins, Simpson 1	¶¼	....
KANAWHA COUNTY—		
United Fuel Gas Co., Campbell 4217	¶¼	....
BOONE COUNTY—		
E. R. Cameron, Stone 2	¶1	....
TYLER COUNTY—		
Morgan Bros., Dancer 1	¶¼	....
DODDRIDGE COUNTY—		
Travis Bros., Willis 1	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
HENDERSON COUNTY—		
Niagara Oil & Gas Co., Duncan 3	10	....
Golday 2	10	....
Wittmer Oil & Gas Co., Crosby 6	5	....
Fred Ingstron & Co., Crofton 1	*	....
John B. Lyddand Trustee, Gish 5	30	....
Jerry Oil & Gas Co., Griffith 1	8	....
Thomas Wittmer, Gish 5	30	....
OHIO COUNTY—		
National Deposit Bank Co., Colyer 7	2	....
Cumberland Petroleum Co., Hamilton 1	150	....
H. C. Smith Co., Findlay 1	*	650
Hupp, Duff & Co., Whitehouse 3	*	650
Petroleum Exploration Co., Huff 1	*	....
J. C. Ellis & Co., Wright 1	*	....
Wade & Moore, Bickett 1	*	....
DAVIESS COUNTY—		
Harry Russell, Edge 1	*	675
Creek Drilling Co., Wheeler 1	*	1100
WARREN COUNTY—		
Johnson & Julius, Morgan 1	*	561
HANCOCK COUNTY—		
Unknown Parties, Leigh 1	30	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MONROE COUNTY—		
Ohio Fuel Gas Co., Mallett 2	10	1348
Green Oil Co., Hogue 1	3	....
NOBLE COUNTY—		
T. L. Parks & Co., Tewanger 1	*	....
Urban, Nau & Co., Hupp 2	2	....
WASHINGTON COUNTY—		
John McClaisey & Co., Morningstar 1	2	....
J. T. Knowlton & Co., Meyers 6	25	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
LICKING COUNTY—		
Murphy & Co., Hackley 1	90	....
Hope Construction & Refg. Co., O'Bannon 6	95	....
Howell 2	10	....
MUSKINGUM COUNTY—		
The Pure Oil Co., Holman 1	135	....
Hopewell Gas & Fuel Co., Burrier 3	60	....
Walsmith & Co., Early 1	¶1	....
TUSCARAWAS COUNTY—		
Gordon Oil Co., Hoffman 4	100	....
GUERNSEY COUNTY—		
Rallston Oil & Gas Co., Virtue 3	25	....
PERRY COUNTY—		
J. W. R. Prod. Co., Ryland 2	30	....
ASHLAND COUNTY—		
O. C. Smith & Co., Mosher 1	4	609
ATHENS COUNTY—		
Ohio Fuel Gas Co., Hoover 2	*	....

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
PIKE COUNTY—		
C. C. Taliaferro, Jr., McAatee 5	35	1015
Mahutska Oil Co., Lindy 2	50	1583
C. E. Wohmer, Thomas 2	*	1152
DUBOIS COUNTY—		
Big Four Oil & Gas Co., Sloan 3	*	....
Becca Oil Co., Longbrake 1	*	....
SULLIVAN COUNTY—		
E. E. Bergman, Goodwin 1	*	727
CRAWFORD COUNTY—		
Speed & Co., Byerm 1	¶½	....

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
HUNTINGTON BEACH—		
Superior Oil Co., Babbitt 1	350	4315
LONG BEACH—		
Tom J. Cannon, No. 2	1000	7300
Continental Oil Co., Modoc 2	125	8240
Cochran Oil Co., James 2	150	6970
Pan Cal Oil Co., No. 7	25	4900
Rio Grande Oil Co., Stanke 8	50	7215
Vesta Oil Co., No. 3	650	7090
World Pet. Corp., Hoover 1	25	7355
RINCON—		
General Pet. Corp., Ferguson 2	1000	3580
SANTA FE SPRINGS—		
Causey & Pullian, Wardman 2	25	7060
The Texas Co., Baldwin 4	125	7885
Union Oil Co., Alexander 20	250	7930
Alexander 21	500	7925
Bell 57	100	4847
Wilshire Annex Oil Co., Koontz 3	140	7840
SUMMERLAND—		
W. D. Inskeep, Meyer 1	300	1535
VENTURA—		
Shell Oil Co., Taylor 53	250	4145

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
OUACHITA COUNTY (Smackover)—		
J. D. Reynolds, Berg-Fee 3, 27-15-15	25	2480
UNION COUNTY (Smackover)—		
Texas Co., Alpin 10, 3-16-15 (sec. comp.)	50	1987

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Louisiana G. & F. Co., Thigpen-Herold 5, 13-17-12	¶33½	2442
CADDO PARISH—		
Gulf Refg. Co., Levee Board A-26, 34-21-16	63	1830
Shreveport Oil Corp., Hicks 5, 32-21-15	100	2115
Standard Oil Co. of La., J. J. Hart 19, 34-21-16	30	1858
Texas Company, Levee Board 72, 27-21-16	*	1660
Calatex O&G Co., Agurs A-2, 7-16-16	¶7½	2951
RICHLAND PARISH—		
Ark. La. Pipe Line Co., Sartor B-4, 18-16-6e	¶6	2445
Northern La. Nat. Gas Co., L. S. Mulhern 1, 28-16-6e	¶44.6	2344
Richland Prod. Co., J. M. Thomason 1, 22-16-6e	¶40	2470
United Carbon Co., Cooper 1, 21-16-6e	¶17	2450
UNION PARISH—		
Greenwood Prod. Co., Quinn B-1, 32-21-3e	¶1.9	2185

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
PORT BARRE—		
The Texas Co., Botany Bay Fee 7	2000	3400
WHITE CASTLE—		
Shell, Wilbert 4	1200	5172

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Humphreys Corp., A. E. Barber F-1	1000	6492
Yount-Lee, Zadie Fisher 1	1800	6929
Phillips 3	1455	5306
Sun Oil Co., J. Wilburn 6	1000	5301
Wilburn Fee 6	100	5263
Farrell & Lawrence, Wilburn 1	75	2140
McAlbert Oil Co., E. F. Woodward 5	1320	5393
BATSON—		
Ada Belle Oil Co., Carlton 136	4	840
BIG CREEK—		
Gulf, T. W. Davis 24, dd	1100	3600
The Texas Co., Fee 2, dd	*	3090
CLODINE—		
Gulf, Brazos Valley Irrig. Co. 2, 3 mi sw Clodine, Fort Bend County	*	4700
GOOSE CREEK—		
Humble, Simms-Smith 77	*	6642
HANKAMER—		
Gulf, Boyt 4	1300	3810
PETTUS—		
Nichols et al, Hicks 3	¶20	3620
PIERCE JUNCTION—		
Moody Corp., Settegast B-5, dd	*	4500
REFUGIO—		
Union Producing Co., O'Brien 4	900	5440
Fannie Heard 9	500	3600
E. M. Jones, Jeter 1-A	160	3600
Mitchell 2-A	*	3710
Mission Drlg. Co., Eliza Brown 1	1000	3600
SARATOGA—		
Rio Bravo, Cotton 86-A	*	3
SOUR LAKE—		
Jno. Austin et al, Watson 1	*	27
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 81, dd	1260	37

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
SALT FLAT—		
Gulf, T. Briscoe 2	480	....
GUADALUPE COUNTY—		
Tidal Oil Co., Seligman 1, N. J. Williamson Sur.	2000	251

Company, Well and Location	Initial Production Bbls.	Depth
DARST CREEK—		
Abercrombie et al, DixMcKean 8 (was 4)	2020	2551
DUVAL COUNTY—		
W. E. May, Hahl-Strip 1	100	2341
ZAPATA COUNTY—		
W. R. Duke, Martinez 2	*	975
Livingston and Twiss, Trevino 1	70	1270
Shankle, Cuellar 1	150	1260
Trinity Drillers, Trevino 1	150	1260

TEXAS PANHANDLE

CARSON COUNTY—		
Delmar Oil Co., J. L. Noel 5	120	3221
Ham Oil Co., E. Cooper 1	185	3105
Phillips Pet. Co., C. R. Garner 1-A	¶4	3193
Skelly Oil Co., H. Schafer 20,	150	3200
GRAY COUNTY—		
Dixon Creek Oil Co., W. W. Harrah 2	300	3215
Magnolia Pet. Co., No. 227 Fee 5	¶33⅓	2365
S. Faulkner 6	¶5-900	2902
Prairie O&G Co., P. A. Worley-Leycomb 2	2275	2890
P. A. Worley-Leycomb 3	¶20-4690	2855
HUTCHINSON COUNTY—		
Danciger O&R Co., J. L. Moore 3	125	3020
Dixon Creek Oil Co., Johnson 1	185	3074
R. F. Cheatham 6	200	3076
McIlroy Oil Co., Cockrell 9	¶⅓-5	3080
Midwest Explo. Co., Garner 1-B	255	3130
H. Stekol et al, Whittenburg 3-B	75	3044
WHEELER COUNTY—		
Lone Star Gas Co., Burcham 4	¶4	1934
Northern Texas Utilities Co., George-Fee 1	¶10	1860

NORTH TEXAS

ARCHER COUNTY—		
Bridwell Oil Co. & Gulf, Fails 3	105	1364
L. T. Burns et al, Dubose 2	*	1432
Fails 9	35	1382
Fails 10	45	1374
Burns & Long, Symank 3	30	1429
C. P. Burton et al, Portwood 1	*	1500
F. P. Cullum et al, Falls County 3	25	1140
F. Hutcheson et al, Hutcheson 1-A	*	1405
Litchfield & Moninger, White 1	*	1459
E. B. Madden et al, Kunkel 1	*	1381
Vigil O&G Co., Harmel 7	30	1431
BAYLOR COUNTY—		
Consolidated Oil Co. et al, Portwood 17	225	1407
Perkins & Cullum, Mills 1	*	1455
Portwood 1-A	*	1450
CLAY COUNTY—		
Ray Dawson et al, Applegate 2	¶33⅓	1589
COOKE COUNTY—		
Danciger O&R Co. & Gulf, Cannon 1-B	*	1504
Sun Oil Co., Milburn 3	*	1215
HASKELL COUNTY—		
S. S. Kouri & Shaheen, Reynolds 1	¶4	1500
JACK COUNTY—		
Panhandle Ref. Co., Smith 5	*	3645
Eaton-Daniels 5	75	3094
MONTAGUE COUNTY—		
Hunter Oil Corp., Henley 1	*	1971
WICHITA COUNTY—		
Arkansas Fuel Oil Co., K&K 31-A	50	1766
Comac Drilling Co. et al, Neal 1	*	1795
Culberson Co., Waggoner 66	*	1666
Everts Drlg. Co., Moeller 1	*	2208
W. B. Omohundro et al, Pace 24	*	1826
WILBARGER COUNTY—		
Fain-McGaha Oil Corp., Waggoner 20-L	150	2326
Greyback Dev. Co., Waggoner-Hawkins 1	*	2770
Phillips Pet. Co., Waggoner 3-O	20	2403
Waggoner 23-NN	30	2294
Sigler Oil Co. et al, Waggoner 1	*	2740
The Texas Co., Waggoner 371	*	2515
YOUNG COUNTY—		
Atlantic Oil Prod. Co., Keen 2-B	*	908
C. W. Carey et al, Lowe 3	10	650
C. J. Kleiner et al, Logan 1	*	875
L. A. Long et al, Garvey 1	*	814
Imperator Oil Co., White 1	†	3503
Independent O&G Co., Jarnigan 2	200	2554
E. B. Madden et al, Fee 1	*	1092
Nimrod Oil Co., Hall 4	15	887
Panhandle Ref. Co., Lowe 3	40	651
Perkins-Cullum, Dunagan 11	210	1078
E. Remington et al, Remington 4	20	685
E. R. Riggs et al, Larimore 4	270	707
Smith-Archer Drlg. Co., Watson 2	*	730

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
J. H. Davis et al, Gentry 1	*	880
H. H. Simons et al, Kessler 1	*	1331
E. L. Smith Oil Co. & Gulf, Suttles 1	*	1620
Ungren-Frazier et al, Eddington 1	*	404
Tex-Cal Oil Co., Martin 4-B	30	987
CALLAHAN COUNTY—		
Culberson Bros. & Sedgwick O&G Co., Windham 1	*	1792
Ducker et al, Higgins 1	*	451
Humble O&R Co., Hennessy 2	*	1664
Humble-Bateman et al, Alexander 2	10	1035
E. Lilluis et al, Robinson 1	*	795
Prairie O&G Co., Surles 1	*	533
COLEMAN COUNTY—		
McMan O&G Co. & Galt-Brown Co., Stewardson 1	*	1625
EASTLAND COUNTY—		
Geo. Christie et al, Clark 1	*	1340
SHACKELFORD COUNTY—		
Humble O&R Co., Davis 1	*	1853

WEST TEXAS

ECTOR COUNTY—		
Gulf Prod. Co., University 2	1220	3700
PECOS COUNTY—		
Cardinal Oil Co., Mrs. Toberg 8	300	412
Shell Pet. Corp., Smith 8-D	2880	1737
WARD COUNTY—		
E. J. Anderson et al, Boogher-Merritt	35	2237

Magnolia Pipe Line Runs Show Increase in April

Dallas, Texas.—Traffic on Magnolia Pipe Line Company's system recorded a large increase in crude runs during April through having maintained an average of 108,718 barrels daily from fields in Oklahoma, Texas, Arkansas, Louisiana and Kansas, as compared to an average of 97,260 barrels daily during March. The boost in crude runs was confined to fields in Oklahoma, Texas and Louisiana with the Oklahoma City field accounting for a large percentage of the increase. Even with a substantial increase in crude runs, the company withdrew 258,613 barrels of oil from storage in Oklahoma during April, or at average rate of 8620 barrels daily. Oklahoma stocks were withdrawn at rate of 10,969 barrels daily during March. The company held 6,764,079 barrels of storage oil in Oklahoma at close of April.

Crude runs by Magnolia Pipe Line Company from fields in Oklahoma during April averaged 55,019 barrels daily, representing a gain of 6359 barrels over daily average maintained in March. The company's increase in Texas' fields amounted to 4481 barrels through having averaged 45,793 barrels daily during April. The largest increase was from the Darst field. Late in April Magnolia Pipe Line Company completed arrangements to operate its eight-inch line connected to Oklahoma City field properties at maximum capacity, such runs represent oil purchased by Magnolia Petroleum Company, and about 8000 barrels daily that is handled on a common carrier basis to the Gulf Coast for the Tidal Oil Company.

Water shipments of crude oil made by the Magnolia Petroleum Company during April from its Beaumont terminal declined to 958,581 barrels, as compared to a total of 1,195,791 barrels during the previous month. Tanker movement of refined oils (gasoline, kerosene, naptha, distillates, lubes, etc). likewise suffered a slump during April as only 18,301,108 gallons were loaded, as compared to 45,463,682 gallons the previous month. However, fuel oil shipments by water increased from 17,036,023 gallons in March to 41,326,385 gallons in April.

Total crude runs made by the Magnolia Pipe Line Company, exclusive of common carrier business, from fields in Oklahoma, Texas, Arkansas, Louisiana and Kansas during March and April, 1930, follow:

Fields—	March Totals	April Totals
Wewoka-Cromwell	552,517	507,738
Oklahoma City	310,737	403,564
Cushing	93,720	194,118
Healdton	196,800	173,347
Hewitt-Graham	150,837	144,902
Wewoka (Bright Stocks)	88,159	114,067
Yale	38,878	38,565
Duncan	35,722	35,754
Augusta (Kansas)	32,913	31,785
Seminole	34,093	31,338
Walters-Beaver Creek	7,002	7,167
Totals Oklahoma and Kansas	1,541,378	1,682,345
Luling	274,081	260,817
Panhandle Dist.	263,570	222,787
Darst Creek	112,609	217,802
Mirando Dist.	185,970	181,912
Electra	74,253	122,932
Crane County	79,247	86,049
Burkburnett	60,692	58,174
Howard County (Deep)	42,728	42,038
Lockhart-Lytton Springs	32,473	36,945
Winkler County	50,363	35,126
Archer County	20,783	19,997
Mexia-Wortham	18,938	17,097
Desdemona-Comanche	14,660	16,091
Iatan & Howard Co.	11,719	13,233
Corsicana-Powell	10,674	12,134
Corsicana (heavy)	8,664	8,495
Stephens County	7,415	8,148
Ranger-Olden	7,191	7,700
Mirando (light)	.....	3,060
Petrolia-Clay County	1,485	1,502
Thrall-Williamson County	1,311	1,069
Panola County	1,542	693
Shelby County	312	.....
Totals for Texas	1,280,680	1,373,801
Smackover	60,273	57,354
El Dorado-Rainbow	42,979	42,456
East El Dorado	2,934	3,446
Totals for Ark.	106,186	103,256
Bull Bayou	32,507	32,699
Cotton Valley	22,839	28,634
Pine Island	25,560	21,635
Hackberry	.....	13,354
Haynesville	5,924	5,817
Totals for Louisiana	86,830	102,139
Totals for five states	3,015,074	3,261,541

PERMITS GRANTED FOR NEW WELLS

ARKANSAS

UNION COUNTY—R. M. Sundby's M. E. Perdue 1, 33-16-14, 75 ft s 150 ft e nw cor of sec. Root Refining Co.'s Jerry 2, 21-17-14, 150 ft n 150 ft e sw cor ne¼ sw¼. H. L. Hunt, Inc.'s Tremmell 1, 28-18-12, 330 ft e 240 ft s nw cor sw¼ nw¼.

OKLAHOMA

CLEVELAND COUNTY — Continental Oil Co., Sudik 6, nw sw ne 6-12-2w; Sudik 5, sw nw ne 6-10-2w.

COTTON COUNTY — Harris and McNeal, Smith 1, nw c se 34-1s-10w; Shackelford 1, ne c sw, 34-1s-10w. Baldwin and Sultan, Patterson 4, nw c sw sw nw 1-2s-10w; Patterson 5, nw c 1-2s-10w. Shasta Oil Co., Patterson 11, c sw nw 1-2s-10w; Slogan 14, se c ne se ne 2-2s-10w; Burneaugh 8, cnl ne se, 2-2s-10w; Burneaugh 9, se c ne se 2-2s-10w.

CREEK COUNTY—Jackson and Wise, Grayson 1, ne c se se 20-18-9e (owdd). J. W. Merritt et al, Pine 1, sw c ne ne 27-18-8e. Twin State Oil Co., Orcutt 1, (owdd) sw c se 22-16-9e. Amerada et al, Whetenbeck 1, ne c sw, 21-16-8e. Olean Petroleum Co., Bigpond 5a, ne ne ne 36-15-7e.

GRADY COUNTY—Meridian Gas Co., Miller 1, ne nw nw 31-4n-7w.

MUSKOGEE COUNTY — Mack Drlg. Co., Richards 3, csl nw ne 33-16-15e. Wm. LaPierre, Mickens 1, sw c nw nw 11-15-18e. Babcock Bros., Barnett 8, csl sw ne 8-15-15e. Alfred et al, Drew 1, se sw ne, 17-13-16e. Midwestern O&G, Mulkey 1, c sw sw, 30-12-19e.

OKFUSKEE COUNTY—Atlantic, Simmer 9, cel se se, 11-10-11e.

OKMULGEE COUNTY—A. W. Cline, Harrison 8, cel ne sw 19-15-14e.

OKLAHOMA COUNTY—I. T. I. O., Salasman 6, ne sw nw 32-11-2w; School land 6, sw ne nw 36-11-3w; School land 5, nw ne nw 26-11-3w. Coline Oil Co., Clauer 15, sw ne se, 25-11-3w; Clauer 14, nw ne se 25-11-3w; Clauer 13, ne nw se, 25-11-3w. I. T. I. O., Watters 6, nw sw ne 25-11-3w; Wilkie Anderson 3, sw se ne 25-11-3w; Watters 5, se sw ne 25-11-3w. Sinclair O&G, Donnell 1, se ne nw 23-11-3w. T. B. Slick, Page 2, ne c nw 14-11-3w. Wirt Franklin Pet. Corp. et al, Lowery 10, ne nw nw, 12-11-3w; Lowery 9, nw ne nw 12-11-3w. T. B. Slick, Campbell 1, ne se ne 3-11-3w. Phillips, Smoot 1, ne nw ne 3-11-3w. Skelly et al, Dillon 1, ne c sw 2-11-3w. Slick & Atkinson, Dannruether 2, se c nw 2-11-3w; Dannreuther 1, sw c se se nw 2-11-3w. Taylor and Gwinn, Stout 1, nw se nw 2-11-3w. J. S. Cosden, McKeehan 1, sw c nw sw nw 2-11-3w. I. T. I. O., Jones Community 4, se sw sw 1-11-3w; Jones 3, sw se sw, 1-11-3w. Slick and Atkinson, Atkinson 2, sw nw nw, 1-11-3w; Slick and Atkinson, Atkinson 1, cwl nw, 1-11-3w; Trumbley 1, nw ne sw, 2-11-3w. Capitol Producing Co., Trust 1, nw c 2-11-3w. Champlin O&R, McKeehan 1, ne nw ne 2-11-3w. Wirt Franklin Pet. Corp., Wright 2, nw ne nw 2-11-3w; Wright 3, ne nw nw 2-11-3w; Theimer 10, nw c se 2-11-3w. L. C. Hivick, Sunset Addition 1, nw sw nw 17-11-3w. Julian Oil Royalty Co., Shepherd 1, se c ne ne nw 14-11-3w; I. T. I. O., Spillman 2, ne nw se 14-11-3w. Wirt Franklin Pet. Corp., Page 3, sw c se, 35-12-3w. Mid Kansas O&G, Cornwell 1, se c sw, 18-12-1w.

OSAGE COUNTY—J. H. Alexander et al, 3, sw c 36-25-11e. Peters Pet. Co. and Producers & R 1, nw c 15-25-9e. The Texas Co. and Prairie, 5, nw ne sw 30-25-8e. Peters Pet. Co., 6, ne nw sw 32-24-9e. Barnsdall et al, 1, sw nw sw 34-22-11e; 1, cwl e½ ne, 27-22-11e.

PAWNEE COUNTY—I. T. I. O., Little 10, se c sw nw 6-20-8e.

PAYNE COUNTY—Magnolia, Page 4, sw c se ne 7-19-6e (owdd). Reiter-Foster Oil Corp., Kinnerman 2, ne c sw, 4-19-1w.

PITTSBURG COUNTY—Midwestern O&R Bascom 1, se c 10-7-18e.

POTTAWATOMIE COUNTY—J. A. Hull, Townsend 1, ne se se 22-6-3e.

SEMINOLE COUNTY—Amerada and Wilcox O&G, Gates 2, nw ne ne 25-9-5e. Carter, Coker 5, sw ne sw 2-8-5e. Continental, Harris 9, nw c sw 4-7-7e. The Texas Co., Chilcoat 4, swc nw, 4-7-7e. Pure, Asby 1, se c ne 22-7-5e. Sinclair O&G, Caesar 2, sw se sw 21-6-6e; Caesar 1, nw se sw 21-6-6e. Empire O&R, Caesar 1, sw ne sw 21-6-6e. Harris et al, Burgess 3, se nw sw 21-6-6e. Burke-Greis Corp., Caesar 3, se sw sw 21-6-6e. Mid-Continent Pet. Corp., Harjo 4, sw c se 20-6-6e; Harjo 5, ne se sw 20-6-6e; Harjo 3, se sw se 20-6-6e. Hilton, Phillips et al, Hyde 4, ne sw ne, 20-6-6e; Chupco 2, sw nw se 20-6-6e. Independent O&G, Okfusgee, ne sw nw 16-6-6e; Okfusgee 6, nw se nw 16-6-6e.

Tabulation and Comparison on Page 42

STEPHENS COUNTY—Magnolia, Green 6, ne c nw 13-1s-4w (owdd). Pace et al, Watkins 6, sw c ne se 21-2s-7w. George Pace et al, Wilson 3, sw c nw nw 20-2s-7w.

WAGONER COUNTY — E. A. Ross, Sequoyah 1, sw c 5-18-19e. H. E. Tyson, Little Head 3, sw c nw, 13-16-15e.

KANSAS

BUTLER COUNTY—Empire O&R, Crawley 1, nw c sw 11-28-5e. Agate O&G, Deathrage 1, sw nw se 20-29-4e.

EDWARDS COUNTY—Barnsdall Oil Co., Carroll 1, c sw, 32-25-17w. Amerada and Dixie, 1, sw c se, 30-25-17w.

ELK COUNTY—Minnehoma O&G, Denton 2, (owdd) nw sw sw 3-31-8e.

GREENWOOD COUNTY—National Refining Co., Wick 10, sw c se 27-22-11e.

KIOWA COUNTY—McKenna et al, Ralston 1, c ne 14-28-20w. Phillips and Prairie, Bean 1, ne c se 10-30-17w.

LYON COUNTY—Bird et al, Pyle 1, ne c 1-20-10e.

MARION COUNTY — National Refining Co., Renny 16, cnl s½ se 17-21-4e.

McPHERSON COUNTY—Simmons, Canary and Shell, Bishop 1, c nw sw 15-18-1w. Gypsy, Kinney 2, sw c 34-20-3w. Sinclair O&G Morehouse 6, ne c 4-21-3w. Independent O&G, Morehouse 2, nw c 3-21-3w.

MORTON COUNTY — Argus Production Co., Creibelbies 1, c ne, 9-34-39w; Rolla State Bank 1, c nw 8-34-39w; Mangel 1, c ne 25-33-40w; Hayward 2, c nw, 31-33-39w; Mangel 1, c sw, 19-33-39w; Howes 1, c sw 31-32-39w; Mangle 1, c se, 4-33-39w; Patterson 1, c ne, 5-33-39w; Thompson 1, c sw 8-33-39w; Garner 1, c se, 18-33-39w; Burton 1, c se, 11-33-40w; Creibelbis 2, c nw, 9-34-39w; Chambers 2, c se 21-34-39w; Sullivan 1, c nw, 29-34-39w; Tillet 1, c sw, 21-34-39w.

RICE COUNTY—Independent O&G, Mezger 2, se sw ne 21-20-10w. C. B. Davis et al, Kelly 1, sw c nw, 22-20-10w. Aladdin Pet. Co., Burchart 1, nw c ne 28-20-10w. Robertson et al, Snyder 1, ne nw se 27-20-10w.

ROOKS COUNTY—Boyson, Seeley et al, Selvers 1, c ne, 21-8-19w.

RUSH COUNTY—McPherson O&G, Brack 1, c sw 24-17-16w. Syndicate Oil Co. et al, Mohr-Eitel 1, c sw 2-18-16w.

SEDGWICK COUNTY—Vickers Pet. Co., et al, Keys 1, ne nw ne 30-27-2e. Fisher and Lauck, Trustee 2, sw c ne 19-27-2e.

STEVENS COUNTY — Argus Production Co., Armstrong 3, c se 3-34-39w; Roach 1, c ne, 34-32-38w. Agate O&G, Gregory 1, c nw 19-33-38w. Argus Production Co., Stone 1, c ne 3-33-39w; Sibon 1, c ne, 2-34-39w; Schaffer 1, c se 6-35-38w.

SUMNER COUNTY—Disney et al, Foy 1, c e½ se 14-34-1w.

TEXAS

Lease or Owner, Acreage, Well, Survey, Distance to lease lines or well.

ARCHER COUNTY—L. T. Burns et al, Wichita Falls, M. Dubose, 160, 2, W. E. Probert sur, 150 ft from n and w lines. R. W. Fails, 42, 9, 2419 TE&L sur, 300 ft w of No. 5; 10, 300 ft w of No. 4. McLaughlin Bros., Wichita Falls, Wm. Justice, 40, 10, W. H. Patton sur, 3450 ft from e and 4150 ft from n li survey. F. P. Cullum, Wichita Falls, L. Ellis, 141, 3, S 8, FCSL sur, 720 ft from w an d150 ft from s line. Barnsdall Oil Company, Tulsa, Oklahoma, T. B. Wilson, D, 40, from e line. W. C. Young, Archer City, W. H. Taylor, 40, 1c, S 1, S. P. Ry sur, 150 ft from n and w lines. Gilliland-Rosser Oil Co., Wichita Falls, G. Symank, 80, 4, W. E. Probert sur, 300 ft e of No. 3. Vigil Oil & Gas Co., Wichita Falls, H. F. Harmel, 100, 7, 2490, TE&L sur, 732 ft from n and 250 ft from e line. Fresno Oil Co., Burkburnett, H. O. Prideaux, 40, 6, B 20, A. McMullen sur, 150 ft from s and w lines. Oil Investment Co., Wichita Falls, Fee, 50, 1, 2419, TE&L sur, 150 ft from s and e lines. Perkins & Cullum, Wichita Falls, C. W. Clark, 12, 1, G. P. Diggs sur, 150 ft from n and w lines of Blk 13.

ANDERSON COUNTY—Humble, Houston, A. E. Todd, 115, 5, D. Clark sur, 600 ft from n and 150 ft from e line. Navarro Oil Co., Houston, A. Gardner, 147 1, M. Salinar sur, 850 ft from n and e lines.

BROWN COUNTY—Kewanee Oil & Gas Co., Tulsa, R. Hickman, 100, 26, S 801, J. McGloin sur, 450 ft from w and 150 ft from s line. Phillips, Bartlesville, C. M. Root, 1, No. 154, S. Ingram sur, 660 ft from s and e lines.

BEXAR COUNTY — J. M. Russell, 2405, Saunders, San Antonio, O. A. Mills, 450, 1, A. Navarro sur, 1600 ft from n and 600 ft from w line. Penn-Tex. Oil Co., San Antonio, L. Sendemer, 107, 1, No. 52, M. Manchaca sur, 150 ft from n and e lines.

BAYLOR COUNTY — Silk & Chenault, Wichita Falls, W. H. Portwood, 176, 1, 3143, TE&L sur, 450 ft from n and 150 ft from w line.

BEE COUNTY—Houston Oil Co., Houston, M. A. Newman, 397, 1, G. A. Kerr sur, 300 ft from s and w lines.

BURLESON COUNTY—Dolly Boyett Oil & Gas Co., Bryan, Batte-Gandy, 468, 1, Wm. McWilliams sur, 1000 ft from n and 600 ft from w line.

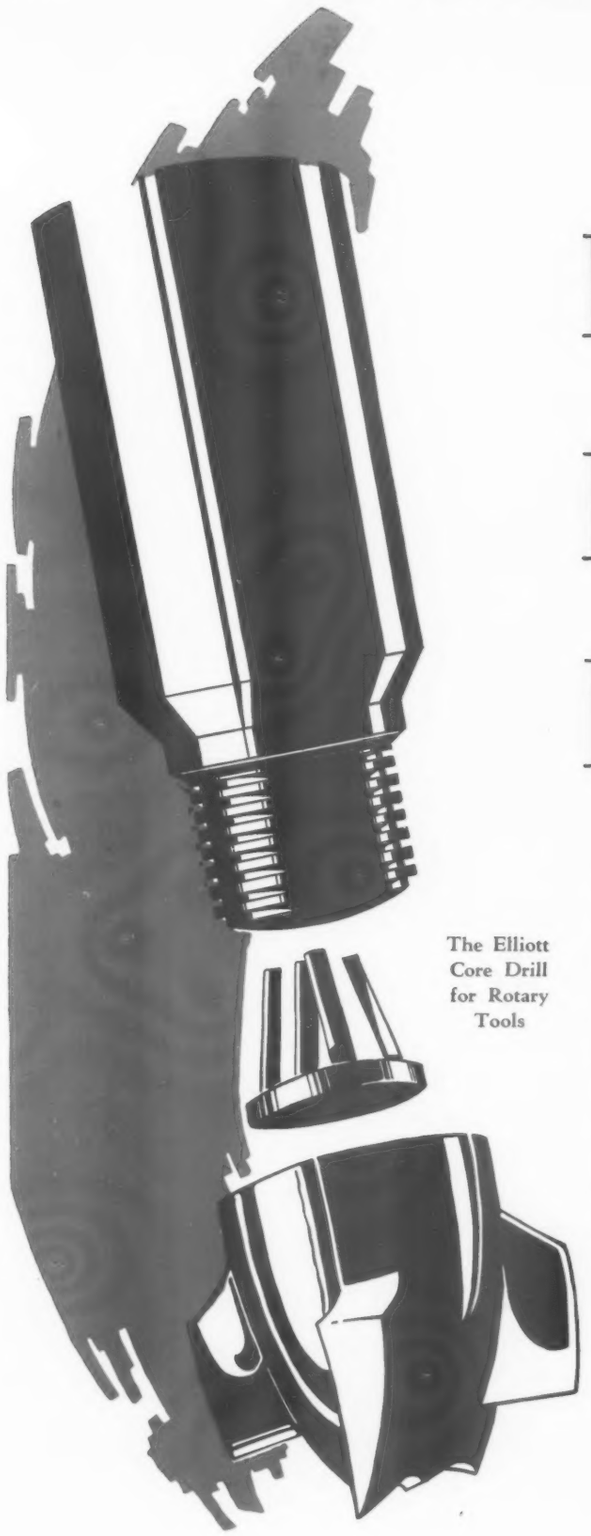
BRAZORIA COUNTY — Shell Pet. Corp., Houston, Blakely, 522, 2, No. 14, HT&B sur, 3590 ft w and 850 ft from s line. L. Patterson, Angleton, L. Proebstle, 99, 1, No. 92, Jno. McNeal sur, 60 ft from n and 379 ft from w line.

CALLAHAN COUNTY—J. W. Ducker et al, Cisco, B. E. Higgins, 80, 1, S 39, D&D Asy. sur, 45 ft from s and w lines s½ nw. Moutray Oil Co., Abilene, P. G. Hatchett, 320, 10, S 20. D&D Asy. sur, 300 ft n of No. 9. Drew Beams, Okmulgee, I. N. Jackson, 320, 1c, S 14, E. T. Ry. sur, 330 ft from s and w lines, ne¼. Lewis Prod. Co., 3416, St. John's Drive, Dallas, M. Alexander, 90, 2, S 23, E. T. Ry. sur, 155 ft from e and 490 ft from s line. Oasis Oil Co., Wichita Falls, M. A. Abney, 80, 7, 2272, TE&L sur, 750 ft from n and e lines.

CLAY COUNTY — Merrick & Goldsmith, Wichita Falls, S. Householder 1, B 36, Petrolia sur, ne cor of lot 9; 1, B 40, Petrolia sur, nw cor of lot 4; 1, B 49, Petrolia sur, ne cor of lot 9; 1, B 27, Petrolia sur, ne cor of lot 9; 1, B 54, Petrolia sur, ne cor of lot 9; 1, B 26, Petrolia sur, nw cor of lot 4. Saxet Gas Co., Petrolia, Stine, J, 80, 4, S 6, B 1, P.C.S.L. sur, 265 ft from n and 150 ft from w lines.

CARSON COUNTY — Hutchinson Drilling Co., Borger, K. Miller, 80, 3, S 199, B 3, I&GN sur, 990 ft from n and 330 ft from e line nw.

COLEMAN COUNTY — Lloyd Oil Corp., Fort Worth, G. B. Bartholomew, 320, 11, No. 279, Wm. Farris sur, 150 ft from w and 1390 ft from s line. Tidal Oil Co., Fort Worth, J.



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L. Stewardson, 80, 5, S 91, E. T. Ry. sur, 1320 ft from s and 150 ft from e line.

CHAMBERS COUNTY—Mills Bennett Prod. Co., Houston, Higgins, 14, 3, Wm. Hodge sur, 50 ft from n and e lines. Pure, Fort Worth, Lost Lake, 796, 5, No. 11681 permit, 1650 ft w and 200 ft s of No. 4. Sun, Beaumont, Chambers County Agricultural Co., 50, 5, Wm. Bloodgood sur, 125 ft s of No. 4.

CRANE COUNTY—Magnolia, Dallas, University, 40, 3, S 34, 330 ft from n and w lines of ne se. Atlantic, Dallas, University, E, 80, 2, S 34, B 30, Univ. Lands sur, 990 ft from e and 2310 ft from s line sec. Weekley & Collett, Fort Worth, University, 80, 2, S 34, B 30, 330 ft from s and e lines w½ ne.

DUVAL COUNTY — W. E. May, San Antonio, R. Benavides, 30, 1, S 22, Lot 4, C. R. Cole sur, 158 ft from w and 160 ft from s lines.

EASTLAND COUNTY—Lone Star Gas Co., Dallas, C. B. Frost, 2, W. H. Martin sur, 150 ft n of No. 1. F. J. Pulley, 320 1, S 474, S. P. Ry. sur, 1999 ft from s and 546 ft from e line. Morgan & Lindley, Pioneer, M. E. Cade, 150, 1, J. Roberts sur, 3200 ft from e and 1075 ft from s line.

FOARD COUNTY—The California Co., Midland, W. H. Nichols, 677, 1, S 298, B A, H&TC sur, 990 ft from n and w lines of sec.

GRAY COUNTY—H. F. Wilcox Oil & Gas Co., Tulsa, Combs, 160, 16, S 37, B 3, I&GN sur, 330 ft from n and w lines ne¼; 17, 330 ft from s and e lines of ne. Dunlop, Dawson, Ponca City, Morse, 160, 10C, S 17, B A9, H& GN sur, 330 ft from s and e lines s½ sw; 160, 9, S 16, B A9, H&GN sur, 330 ft from s and e lines of sec; 100, 6, S 2, B 26, H&GN sur, 330 ft from n and e lines nw¼; 160, 8, 330 ft from n and w lines sec; 7, 330 ft from s and w lines nw; 5, 990 ft from s and 330 ft from e lines nw. Magnolia, Dallas, S. Faulkner, 80, 7, S 30, B 2, H&GN sur, ne cor of sec; 160, 9, S 30, B 2, H&GN sur, sw corner. J. M. Saunders, 160, 1, S 40, B 3, I&GN sur, 330 ft from n and w lines of se. S. Faulkner, 80, 8, S 30, B 2, H&GN sur, 33 ft from n and w lines ne¼ se. E. Wright, 80, 1, S 12, B 3, I&GN sur, 268 ft from s and w lines of sec. Mid-Continent Petroleum Corp., Tulsa, M. L. Langham, 235, 2, B B2, S 1, H&GN sur, 250 ft from n and w lines. Gulf, Fort Worth, P. E. Worley, A, 160, 7, S 36, B 3, I&GN sur, 750 ft w of No. 6. A. Combs, 160, 4, S 38, B 3, I&GN sur, 990 ft from e and 330 ft from s lines of sec; 3, 660 ft n of No. 2; Champlin, Enid, Faulkner, 120, 7, S 30, B B2, H&GN sur, 1698 ft from e and 2166 ft from n lines sec. Penn-Tex. Oil Co., San Antonio, M. E. Roamel, 10, 1, J. W. Robinson sur, 155 ft from s and e lines. Midwest Exploration Co., Amarillo, A. C. Wagner, 160, 1, S 173, B 3, I&GN sur, 330 ft from n and 1320 ft from e line nw. The Texas Co., Wichita Falls, J. E. Wright, 100, 6, S 13, B 3, I&GN sur, 250 ft s and 750 ft from e lines se¼ 4, 5, 250 ft from s and e lines of sec. S. Faulkner, 160, 9, S 29, B B2, H&GN sur, 330 ft from n and e lines of sec. Smith, Ash & Lyon, Wichita, Morse, 80, 2, S 2, B 26, H&GN sur, 330 ft from n and w lines of ne.

GUADALUPE COUNTY—W. E. Gee, San Antonio, L. D. Denman, 20, 1, A. S. Emmett sur, 150 ft from n and 157 ft from w lines. Empire Gas & Fuel Co., Wichita Falls, C. Knobloch, 40, 3, J. Robinson sur, 160 ft from w and 170 ft from s line.

HARRIS COUNTY—Jno. A. Deering, Houston, Bennett, 2, 1, J. B. Jones sur, 150 ft from s and 100 ft from e lines. Sun, Beaumont, E. L. Bender, 7, W. B. Adams sur, 100 ft from s and w lines of Blk 2. Lee & Wilson, Houston. Wheeler-Pickens, 2, J. B. Stevenson, 40 ft from s and w lines of lot 4. Rio Bravo, Houston, Fee, 22, 2, W. B. Adams sur, 200 ft s of No. 1.

HARDIN COUNTY—Rio Bravo, Houston, Fee, 158, C87A, J. F. Cotton sur, 325 ft n and 290 ft e of No. C78; C84, 140 ft w of C47; C85A, 180 ft n of 78. Ada Belle Oil Co., Batson, Charlton, 4, 136, C. Choate sur, 33 ft from e and 397 ft from s lines; 1, 135, A. M. le Jarza sur, 33 ft from w and 521 ft from s lines.

HENDERSON COUNTY—J. R. Creighton, Mineral Wells, T. E. Barry, 59, 1, A. York sur, 450 ft from e and 675 ft from s line.

HILL COUNTY—Robertson & Robertson, Markham, M. A. Vines, 80, 1, G. Wm. Shelton sur, 450 ft from n and w lines.

HOWARD COUNTY — Magnolia, Dallas Roberts, 400, 2, S 156, B 29, W&NW sur, 200 ft from n and w lines.

HUTCHINSON COUNTY—Suloch Oil Co., Amarillo, J. Q. Bost, 160, 1, Beaty-Seale-Forward sur, 330 ft from e and 990 ft from s lines s 1.

IRION COUNTY — Straughan, Texannati Oil Co., Mertzon, J. M. Nutt, 40, 2, S 6, GCSL sur, 450 ft from n and 150 ft from e lines.

KENDALL COUNTY—A. S. Mowinkle, San Antonio, O. Kasten, 12, 1, No. 311, 150 ft from nw and 160 ft from ne lines.

LOVING COUNTY — Miller, Burger & Healy, Pecos, N. F. Chatman, 40, 1, S 71, B 1, W&NW sur, 330 ft from s and w lines nw sw.

MADISON COUNTY—Indian Pet. Corp., San Francisco, G. A. Fuhlberg, 11, 1, J. S. Collard sur, 173 ft from e and 380 ft from s lines.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, J. S. Dennis, 353, 5, E. Robertson sur, 3810 ft from s and 2315 ft from w lines survey.

PALO PINTO COUNTY—Atlantic, Dallas, S. T. Stuart, 160, 2, S 50, B 4, T&P sur, 1470 ft from s and w lines of sec. Brazos River Gas Co., Wichita Falls, M. B. Costello, 31, 4, J. F. Smith sur, 300 ft from ne and 600 ft from se lines. C. E. Bennings, Strawn, R. E. Henshaw, 160, 1, S 81, W. W. Cochran sur, 300 ft from w and 440 ft from s lines. S. J. Knepley et al, Eastland, F. Riebe, 160, 1, S 58, B 3, T&P sur, 300 ft from n and e lines of se. T. P. Coal & Oil Co., Fort Worth, A. Ashworth, 1, A. Ashworth sur, 400 ft from n and 450 ft from e lines.

PECOS COUNTY—Gulf, Fort Worth, M. A. Smith, 640, 25, S 22, B 194, GC&SF sur, 250 ft from n and e lines of sec. F. F. Lischke, Santa Fe, N. M., I. Yates, 40, 1, S58, B 1, I&GN sur, 150 ft from n and e lines. O. J. Perren, Fort Stockton, J. S. Jackson, 80, 1, S 28, B 3, H&TC sur, 450 ft from nw and 150 ft from sw lines sec. Southern Crude Oil Pur. Co., Fort Worth, H. J. Eaton, 80, 2, S 35, B 3, H&TC sur, 2310 ft from s and w lines of sec.

REFUGIO COUNTY—W. L. Pearson Properties, Inc., Corpus Christi, Ryals, 52, 2, Refugio sur, 200 ft from n and 175 ft from w lines Lot 2.

SHACKLEFORD COUNTY—Kiser Fleming, Albany, P. K. Clarke, 16, 1, S 2, Blind Asy. sur, 150 ft from ne and 500 ft from s lines. Roeser & Pendleton & Humble, Wichita Falls, Morris-Buie, 320, 1, S 204, E. T. Ry. sur, 220 ft from s and e lines of n½. Scott & Walker, Albany, L. C. Huskey, 320, 22, 560, TE&L sur, 1650 ft from n and 1050 ft from e line sec. Roeser and Pendleton, Inc., Albany, Scott, 640, 2, S 202, E. T. Ry. sur, 220 ft from n and e lines nw. Keyes & Moran, Sedwick, A Hickman, 40, 1, S 70-16, ne corner. L. D. Hill, Mineral Wells, L. H. Hill, 10, 1, S 1, B 64, Blind Asy. sur, 150 ft from n and w lines. Skelly, Tulsa, J. B. Matthews, 640, 5, S 31, E. T. Ry. sur, 450 ft from s and e lines of nw. Roeser & Pendleton & Humble, Cisco, Morris-Buie, 640, 1, S 205, E. T. Ry. sur, 220 ft from s and e lines of sec. Meridian Pet. Corp., Tulsa, F. W. Alexander, 373, 5, 580, TE&L sur, 750 ft from sw and 150 ft from se line sec. A. D. Robinson, Dallas, C. Blach, 160, 2, 373, TE&L sur, 1200 ft from ne and 300 ft from se line of sec. Wilson Drilling Co., Wichita Falls, D. M. Proctor, 80, 1, S 201, E. T. Ry. sur, 220 ft from s and w lines. Hart & Gist Prod. Co., Albany, W. T. Grisham, 80, 1, S 22, Blind Asy. sur, 450 ft from e and 150 ft from n line e½ sw. J. S. Dennis, Moran, Dennis, 208, 5, S 15, L. A. L. sur, 600 ft from w and 108 ft from s line.

STEPHENS COUNTY—Lone Star Gas Co., Dallas, G. W. Elliott, 200, 2, S 1, B C, S. P. Ry. sur, 330 ft from n and e lines of sec. S. M. Henry, 80, 5, S 53, B 7, T&P sur, 1320 ft of No. 3. Belva Oil Co., Eastland, D. S. Mitchell, 60, 1A, S 64, B 4, T&P sur, sw corner.

THROCKMORTON COUNTY—C. & B. Oil Co., Mineral Wells, O. J. Woods, 30, 1, 697, TE&L sur, 1394 ft from w and 750 ft from s line sec. L. T. Taylor, 120, 1, 2224, TE&L sur, 1083 ft from n and 150 ft from e line sec. Moore & Bennie et al, Graham, R. B. Elliott, 80, 1, 2351, TE&L sur, 150 ft from s and e lines of nw. Geo. Mollenkopf & Addison, Woodson, O. J. Woods, 40, 2, 697, TE&L sur, 150 ft from w and 750 ft from s line.

TAYLOR COUNTY — Eastland Oil Co. & Dunigan & Hyer, Fort Worth, A. V. Teaff, 108, 1, Young & Avery 3, nw corner.

VAN ZANDT COUNTY—Pure, Fort Worth, J. T. Thompson, 50, 6, M. Gross sur, 50 ft from s and w lines. N. E. Clark, 11, 2, J. Walling sur, 161 ft from w and 51 ft from line.

WICHITA COUNTY — Langford Oil Co., Wichita Falls, E. F. McClinton, 10, 2, S 33, H&GN sur, 150 ft from n and w lines. United Prod. Co., Wichita Falls, W. L. Hodges, 36, 4B, H&TB sur, 50 ft e of No. 1. W. L. Hodges, 40, 15A, H&TB sur, 60 ft se of No. 5. Burch & Bullock, Wichita Falls, M. Allen, 80, 1, DCSL, No. 2 sur, 150 ft from n and w lines of Blk 25. Stidham & Thrasher, Electra, C. Kemple, 40, 1, B 242, Wag. Col. sur, 160 ft from e and 450 ft from s line. The Texas Co., Wichita Falls, W. T. Waggoner, A381, S 3, GC&SF sur, 720 ft from n and 650 ft from w line sec. Burr Lambert, Wichita Falls, W. W. Overby, 100, 2, J. M. Sharp sur, 300 ft west No. 1. Bohner, Crenshaw & Whitehill, Burkburnett, Weber, 5, 1, B 88, RRVL sur, ne corner. A. Baker, Wichita Falls, E. F. Gaston, 80, 12, Jno. Andridge sur, 300 ft s of No. 3.

WILBARGER COUNTY—Fain-McGaha Oil Corp., Wichita Falls, W. T. Waggoner, L. 20, 21, S 31, B 4, H&TC sur, 605 ft from n and 600 ft from w lines; 20, 1530 ft from e and 955 ft from n line. Texas Co., Wichita Falls, W. T. Waggoner, 320, D6, S 43, MEP&P sur, 2435 ft from n and 2375 ft from e line sec. C. Zipperle, 160, 1, S 80, B 14, H&TC sur, 150 ft from n and e lines. Phillips, Bartlesville, W. T. Waggoner, V, 40, 1, S 44, B 4, H&TC sur, 330 ft from s and w line nw¼ ne¼; W, 40, 1, S 44, B 4, H&TC sur, 330 ft from e and 200 ft from n line sw ne.

WHEELER COUNTY — Fain-McGaha & Murchison Oil Co., Wichita Falls, I. Persons, 100, 2, S 53, B 23, H&GN sur, 660 ft from s and e line nw.

WEBB COUNTY—Cole Pet. Co., Laredo, R. Benavides, 40, 69, S 20, B 6, M. Arispe sur, 660 ft from sw and 627 ft from se line. Magnolia, Dallas. A. Benavides, 280, 2, No. 660 sur, 150 ft from n and e lines of sec. C. Benavides, 1200, 4, No. 662 sur, 150 ft from s and w lines.

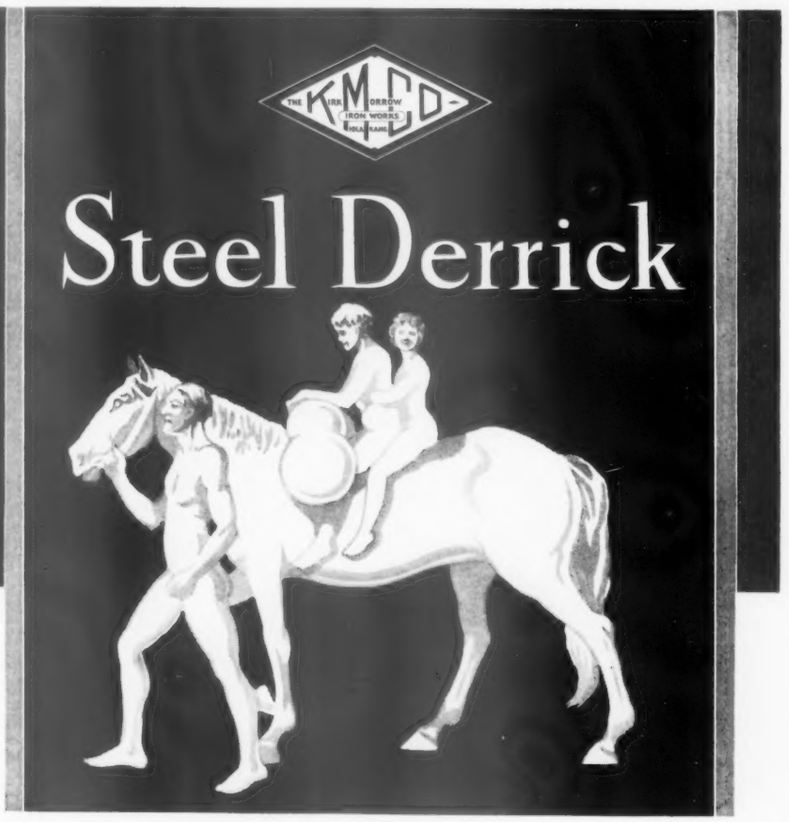
WARD COUNTY — Atlantic, Dallas, S. F. Hayzlett, 480, 7, S 17, B 5, H&TC sur, 1897 ft from sw and 2030 ft from nw line sec.

WINKLER COUNTY—Southern Crude Oil Pur. Co., Fort Worth, I. Hendrick, 240, 8, S 25, B 26, 1650 ft from w and 1815 ft from s line sec.

WASHINGTON COUNTY—Sun, Beaumont, Wm. Janner, 169, 3, J. F. Perry sur, 700 ft from sw and 800 ft from se line.

WILLIAMSON COUNTY—Manning & Anderson, Georgetown, R. T. Cooper, 38, 1, Wm. Addison sur, 500 ft from w and 200 ft from s line. R. A. Foust, 221, 2, W. Donahe sur, 645 ft from n and 1650 ft from e line.

YOUNG COUNTY — E. B. Madden et al, Olney, Bloodworth, 1, Add. No. 2, 200 ft from n and 170 ft from s line, Blk 9. W. J. Terrell, 80, 1, E. Crockett sur, 1866 ft from e and 150 ft from n line sur. Panhandle Refg. Co., Wichita Falls, J. D. Love, 40, 3, 250, TE&L sur, 300 ft e of No. 1. Scott & Nance, Graham, S. I. Payne, 40, 7, W. E. Smith sur, 200 ft from s and 820 ft from e line. Perkins & Cullum, Wichita Falls, E. J. Dunagan, 66, 17, 157, TE&L sur, 1050 ft from s and 450 ft from w line. E. M. Remington, Newcastle, J. B. Terrell, 80, 1, J. M. Perterley sur, 150 ft from n and 783 ft from e line. Hunter Oil Corp., Wichita Falls, Bloodworth, A, 35, 157, TE&L sur, 186 ft from n and 200 ft from e line. Bloodworth, B, 1, 157, TE&L sur, 150 ft from n and 215 ft from e line. H. H. Benson, 34, 4, 157, TE&L sur, 300 ft s of No. 5. Nix & Dale, Wichita Falls, J. B. Daniels, 40, 2, S 164, No. 411, 300 ft e of No. 1. W. F. Stafford, Graham, E. M. Corley, 40, 1, 17, 150 ft from s and e lines of sw. Terrell & Remington, Newcastle, Jno. Graham, 40, 1, 2249, TE&L sur, 150 ft from n and e lines of sec. E. M. Remington, 40, 4, 2248, TE&L sur, 783 ft from w and 450 ft from n line sec. Shappell Oil Co., Wichita Falls, D. Garrett, A, 38, 1487, TE&L sur, 420 ft from w and 1080 ft from s line. G. A. Alexander, Jr., Wichita Falls, J. B. Foster, 40, 1, 284, TE&L sur, 150 ft from s and e lines of n½ sw. S. R. Jeffers, 40, 1, 51, TE&L sur, 150 ft from s and w line



The Burden Bearer.

Four-footed, strong, enduring and made for that purpose—the KM CO Steel Derrick is the oil man's Burden Bearer.

The KM CO Steel Derrick is the fundamentally correct equipment for drilling. Milled ends on each leg give it full bearing on the leg below, distributing the load properly from the crown block to the foundation. Gusset plates at all leg splices are of one-piece, special quality flanging steel and inner splice angles are milled to fit the fillet of the derrick leg This insures close-fit, rigid construction, better able to withstand the strains of hard usage and allowing no creation of torques on legs. One size bolt for all connections. Legs are uniform and interchangeable, allowing far speedier erection. Built to A P I. Specifications.

As surely as man has placed upon the horse the burden of work and elected this worthy animal as the unit of power, so surely is the oil world coming to the KM CO Steel Derrick as the standard of derrick efficiency.

THE KIRK-MORROW IRON WORKS COMPANY

IOLA, KANSAS

Sales Offices: Hunt Bldg., Tulsa, Oklahoma; Magnolia Bldg., Dallas, Texas; Central Bldg., Wichita, Kansas

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PRODUCTS

Steel Derricks, Rig Irons, Bull Wheels, Calf Wheels, Band Wheels, Crown Blocks, Tug Wheels, Sand Reels, Steel Tankage, Floating Roofs, Tank Fittings, Refinery Equipment, Steel Plate Construction.

n½ ne. Bonner Co., Wichita Falls, J. W. Davis, 100, 9, TE&L sur, 300 ft ne of No. 3. Adair & Daniels, Fort Worth, H. Wilson, 27, 1, W. Keen sur, 407 ft from w and 150 ft from s line. Atlantic, Dallas, J. E. Keen, 106, B2, 3401, TE&L sur, 300 ft w of No. 1. R. A. Clampitt et al, Olney, J. D. Lowe, 40, 3, 250, TE&L sur, 150 ft from n and 750 ft from w line s½ nw. Bolin & Lindsay, Graham, D. L. Wolf, 30, 12, 165, TE&L sur, 150 ft from w and 190 ft from s line. T. L. Griffin, Olney, R. L. Morrison, 90, 1, 159, TE&L sur, 150 ft from n and e lines. Holbrook & Woods, Wichita Falls, G. M. Jones, 20, 1, 25, TE&L sur, 150 ft from s and w lines.

ZAPATA COUNTY—O. W. Killam, Laredo, R. B. Cuellar, 400, 25, J. M. Pereda sur, 300 ft nw of No. 22. R. B. Cuellar, 343, 18C, No. 278 sur, 2804 ft from n and 150 ft from w line sec.

CALIFORNIA

ARROYO GRANDE—J. D. Martin's Pricco C-1, 5-32-13; Pricco A-1, 5-32-13.

ELK HILLS—Standard Oil Co.'s Turman 45, 36-30-24.

KETTLEMAN HILLS — Petroleum Securities Co.'s Felix 2, 35-21-17. Shell Oil Co.'s Dixon 1, 36-21-17.

LONG BEACH — Plymouth Oil Co.'s Plymouth 11, 29-4-12. Davis Investment Co., No. 16, 29-4-12. Rawco, Inc. Ltd.'s Booth 1, 29-4-12. C. W. Murphy, No. 2, 24-4-13. Otis Hoyt, No. 11, 29-4-12. Venago Pet. Co., Ltd, No. 1, 13-4-13. Standlee Oil Co., No. 1, 13-4-13.

LOS ANGELES COUNTY—H. A. Bardeen's Puente 1, 9-2-10. Western American Pet Co., No. 1, 14-2-10. Republic Pet. Co., No. 1, 10-3-14.

MT. POSO—General Pet. Corp.'s Glide 21-14, 21-27-28.

PLAYA DEL REY—George F. Getty, Inc., No. 1, 21-2-15. Santa Fe Springs Oil Co.'s Venice 1, 21-2-15. Knickerbocker Pet. Co., No. 1, 21-2-15.

RICHFIELD — Continental Oil Co.'s Ross-Schlachter 2, 33-3-9; Santa Fe 4, 33-3-9.

RINCON—Rincon Oil Co.'s Shudde 1, 7-3-24. Neil C. Needham's Needham 1, 7-3-24. Indian Pet. Corp.'s Boone 1, 12-3-25.

SANTA BARBARA COUNTY—General Pet. Corp.'s Erburu 5, 5-4-30.

SANTA PAULA—G. C. Thompson, No. 1, 15-4-21.

VENTURA—Shell Oil Co.'s Everett 1, 14-2-20.

LOUISIANA

BIENVILLE PARISH—Arkansas La. Pipe Line Co., Shreveport, W. M. Ashley 1, 15-16n-10w, 660 ft n and 660 ft w of se c of sec.

BOSSIER PARISH—Arkansas Fuel Oil Co., Shreveport, Lacy F. Barnett B-3, 36-23n-12w, 330 ft n and 330 ft e of sw c nw of ne. Magnolia Pet. Co., Shreveport, G. W. Roberson 2, 26-23n-12w, 330 ft s and 330 ft e of nw c sw of ne. The Texas Co., Shreveport, Henry Rose 4, 31-23n-11w, 1000 ft n and 330 ft e of c of sec.

CADDO PARISH—Mr. P. T. Mize, Oil City, La. Oil & Refg. Corp A-2, 6-20n-15w, 200 ft n and 200 ft e of sw c of sec.

CALCASIEU PARISH—Gulf Refg. Co. of La., Houston, J. W. Gardiner Est. et al No. 2, 33-10s-12w, 304 ft n and 44 ft e of sw c se of ne.

CAMERON PARISH — Calcasieu Oil Co., Inc., Sulphur, Verdine 2, 36-12s-10w, 510 ft s and 510 ft w of se c of sec 13; Watkins 19, 24-12s-10w, 3448 ft w and 488 ft s of se c of sec 13.

DE SOTO PARISH—Lacy Oil Co., Shreveport, G. W. Sample 1, 1-13n-14w, 300 ft s and 300 ft w of ne c nw of ne. Standard Oil Co. of La., Shreveport, H. P. McClanahan 1, 8-13n-13w, 380 ft s and 330 ft w of ne c of se.

JEFFERSON DAVIS PARISH—M. L. Vincent, Eunice, W. Richard 1, 22-7s-3w, 350 ft n and 250 ft e of sw c of sec.

OUACHITA PARISH—Arkansas La. Pipe Co., Shreveport, McEnrey 4, 29-19n-4e, 1320 ft n and 760 ft e of sw c of sec.

RICHLAND PARISH — Southern Carbon Co., Monroe, W. M. Hallock B-1, 1-16n-6e, 622 ft n and 990 ft w of se c of nw.

SABINE PARISH—Mr. F. M. Hood, Shreveport, Winston B-1, 31-8n-12w, 460 ft s and 780 ft e of nw c of sec. Loring Oil Co., Pittsburgh, Pa., Bowman-Hicks 9, 34-8n-12w, 330 ft n and 330 ft w of se c nw of se; Peavy-Wilson 1, 21-6n-13w, 200 ft s and 330 ft w of ne c sw of ne.

ST. LANDRY PARISH—Pure Oil Co., Ft. Worth, J. A. Perkins 1, 21-6s-5e, 225 ft southwesterly along w line and 225 ft e from nw cor of s 132.6 acres of sec.

ST. MARTIN PARISH—(Amended location) Yount-Lee Oil Co., Beaumont, Herbert 2, 123-9s-5e, 2600 ft n and 1170 ft e of se c of sec 86.

UNION PARISH—Mr. A. G. Stephenson, Tr., Huttig, Ark., Stephenson 1, 11-20n-3e, 150 ft n and 120 ft e of sw c ne of nw.

WEBSTER PARISH — Magnolia Petroleum Co., Shreveport, L. S. Gardner 1, 1-22n-11w, 175 ft n and 230 ft e of sw c se of nw. J. S. Martin, Tr., Bee Branch, Ark., Taylor 1, 36-23n-11w, 200 ft n and 200 ft w of se c nw of nw. Mr. W. O. Neely, Sarepta, J. R. Slack 1, 12-22n-11w, 150 ft n and 150 ft e of sw c of sec.

ANSWERS

to questions found on page 64

Answer to Questions for May 30 Oil Weekly

1. The force of gravity is considerable factor in the recovery of oil in fields where the producing strata are thick or steeply inclined, but at best it is a slow-acting force. During the early life of fields in the United States it is improbable that gravitation is of much importance as a factor in the drainage of oil from sands, because the dips of most of the oil-producing formations are relatively low and the sands are irregular in texture and bedding.

2. Movement of oil through the sand to the well is retarded by: the increasing viscosity resulting when gas comes out of solution in oil; the surface tension of the oil film on gas bubbles; the distortion of these bubbles in passing through the pore space interstices and adhesion.

3. The production value is directly controlled by three factors: the land value; the physical property value, and the petroliferous content value. In other words the production value is directly proportional to the income and inversely proportional to the total costs.

4. Oil shale mining will be practical when the price of crude petroleum, as now produced, will have reached a sufficiently high level to make this practice a commercial possibility. Already oil shale mining in several parts of the world is competiting successfully with other oil production methods.

5. The curve method consists in plotting production decline curves for all wells whose past production has been reliable enough to furnish good curves, combining these production decline curves and computing future production curves for the area.

6. First, the lease requirements must be met and fulfilled; secondly, drilling activity on adjoining properties influence the rate of development; thirdly, the market must be considered; fourthly, the stability of production influences the rate of development; fifthly, the speed at which the invested funds must be returned; sixthly, the time and cost of drilling a well; finally, the cost of operation of the producing wells influences development.

7. The camera is an important factor in this work; its uses fall into three classifications, namely, surveying for mapping purposes, progress or development records and general record photographs.

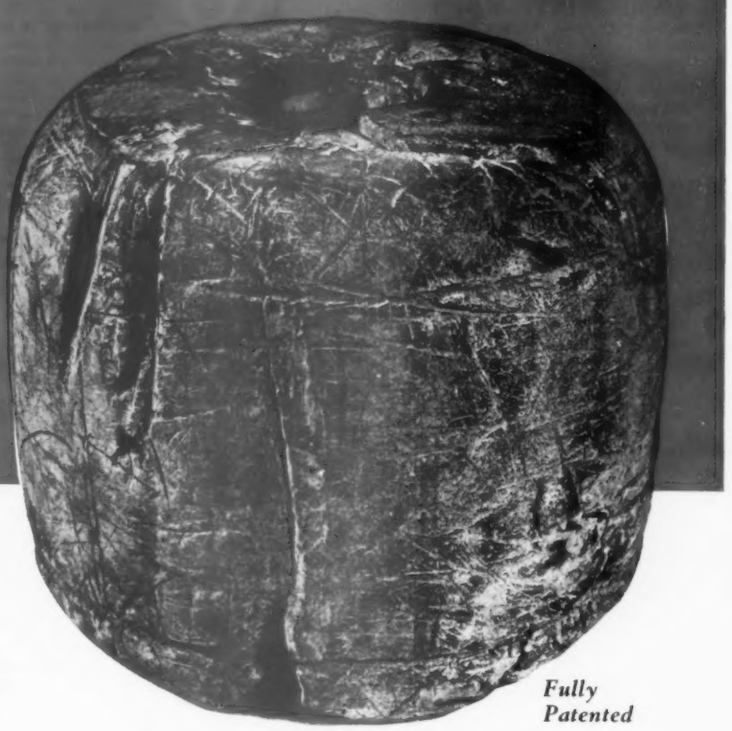
8. The cosmic theory of petroleum derivation embraces one of the older ideas and is based on the supposition that both oil and gas were constituents of the original nebular matter composing the earth. It is further supposed that as the earth cooled the oil was precipitated from the atmosphere of gases and subsequently entered the pore spaces in the rocks and collected in the present reservoirs.

9. Diastrophism includes all movements of the earth's crust such as compressional, tensional or torsional, and the results of these movements are folding or faulting, plateau or mountain-making, or continental-forming displacements.

10. Recementing through casing; by dumping cement on the bottom, using a positive dump bailer; or recementing through tubing under pressure.

Robert J. Miller, left, president of the Robert J. Miller Company, Houston; Mrs. Miller, and R. C. Grinnell, president of the Robert N. Atmore Company, Tulsa, at the Houston Airport, just after Grinnell and Miller arrived from an air tour of West Texas and New Mexico oil fields in the former's Bellanca 330-horsepower nine-cylinder Wright whirlwind motor monoplane

This battle-scarred Stabilizer proves an interesting Fact



Fully Patented

It Won the Battle and Floated to the Surface

A SUPERINTENDENT *recently asked what would happen to a Bettis Drill Stabilizer if a cave-in occurred, which he believed would have a tendency for the drill pipe to become stuck in the hole by reason of the formation packing around the Stabilizer.*

A case occurred in Ventura (Calif.) Sexton No. 1 of the Prairie Oil & Gas Company, being drilled by the Taft Well Drilling Co., was equipped with three 5x14 Stabilizers on 5-inch drill pipe at a depth of 4500 feet. These Stabilizers were set above the drill collar a short way and a 17½" hole was being drilled. They had a twist-off. Two of the Stabilizers came out of the hole with the pipe and one remained in the hole on a stand at the drill collar. There was a cave-in at the bottom and when they picked up the fish with an over shot the sand had settled around the Stabilizer. However, this did not hinder them from recovering the pipe. The 17½" fishtail bit pulled through the Stabilizer, leaving the latter in the hole.

On the next run into the hole with another fishtail bit a few feet of hole was made. After removing this string of pipe the hole was immediately filled full of mud, which was done to equalize the mud pressure.

THE STABILIZER THEN FLOATED OUT

The photograph shows this Stabilizer and indicates the rough service to which it was exposed and proves that the use of these large rubber cushions will never hinder a fishing job. Being made entirely of rubber, they can be pulled over the fishtail in the hole if the pipe becomes stuck, and they will always float out—which would be impossible if any other type of drill stem protection was used, particularly any made with metal.

"Best bet yet"

The Bettis Drill Stabilizer is the only guide that can be placed on the drill stem or pipe in open formation that can be slipped off in an emergency and will always float to the surface on top of the mud.

These Drill Stabilizers are a further development of the Bettis principle of cushioning the drilling string. They are much larger than Bettis Protectors, of sufficient diameter to keep the drilling string in the center of the formation but without hindrance to the return circulation

These Stabilizers are made of exactly the same rubber as used in Bettis Protectors and are spaced approximately 30 feet apart from the drill stem to the bottom of the casing.

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BETTIS DRILL STABILIZERS

ENLARGED BETTIS PROTECTORS

WILDCATS FROM ALL SECTIONS

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 23, Peerless Oil Co., Cromwell 1, c nw ne dr 6090 ft.

GRANT COUNTY—T 28n, R 4w, Sec. 12, Boucher et al, Dedman 1, sw c se, dr 5010 ft.

WOODS COUNTY—T 27n, R 16w, Sec. 22, Sinclair, Share 1, c ne sw, td 6790 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 17, Blankenship Pet. Co., Hansen 1, sw c nw sw, sd 1790 ft.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, show oil 6711-16 ft, td 8578 ft r.u.s.t.

GRANT COUNTY—T 26n, R 3w, Sec. 23, Otstot Dev. Co., Tapor 1, ne c se, show oil 4355-4415 ft, dr 5285 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al, McNeal 1, nw c ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, dr 4390 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 1, ne c se ne sw, lost tools 5640 ft sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, water at 4649 ft, dr plugs 4660 ft, w.o.c.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, hfw 4730-4800 ft, fsh job, dr 5558 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Prairie & Transcontinental, Woodward 1, ne c dr 6900 ft.

GARFIELD COUNTY—T 23n, R 4w, Sec. 32, Shell et al, Loomis 1, c nw nw, dr plugs 5584 ft.

NOBLE COUNTY—T 22n, R 1w, Sec. 28, Gypsy et al, Berstram 1, se c nw, dr 4875 ft.

WOODWARD COUNTY—T 21n, R 19w, Sec. 19, Burgoyne Bros., Merklin 1, sw c se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al, Horton 1, c ne ne, spd and abn.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, fsh 3130 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healy et al, Quier 1, se c sw, td 3970 ft. T 17n, R 4w, Sec. 34, Eason et al, Katcher 1, sw c ne sw, rig. T 17n, R 1e, Sec. 22, Prairie & Slick, Simms 1, ne sw se, dr 3170 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault Brown, Boch 1, c nw se (owdd), td 6022 ft sd.

LOGAN COUNTY—T 16n, R 1w, Sec. 33, Prairie & Slick, Morgan 1, c nw ne, dr 4070 ft.

OSAGE COUNTY—T 24n, R 4e, Sec. 28, Kay County Gas Co., 1, cnl sw sw, show gas 2495-2565 ft and hfw, show oil 3920-60 ft, hfw dry and abn. T 24n, R 5e, Sec. 24, Continental, 1, nw se se, Wilcox 3234-58 ft, water, hfw 3385-3420 ft, td 3500 ft, dry and abn.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig.

OSAGE COUNTY—T 22n, R 8e, Sec. 5, Peters & P&R, 1, sw c ne hfw 3050-3100 ft, td, dry and abn.

PAWNEE COUNTY—T 20n, R 5e, Sec. 22, J. M. Scott et al, Jones 1, sw c ne, spd and sd.

PAYNE COUNTY—T 18n, R 4e, Sec. 6, F. M. Marrs et al, Tietz 1, sw nw se, lcn. T 17n, R 4e, Sec. 4, Wheeler & Mote, Funnel 1, ne c se, Wilcox 4256-62 ft, hfw.

LINCOLN COUNTY—T 17n, R 5e, Sec. 16, Ed Jilson et al, School land 1, se c sw, Wilcox 4024-27 ft, show oil and water. T 16n, R 2e, Sec. 35, T. B. Slick, Hammer 1, se c sw nw, dr 4985 ft. T 16n, R 4e, Sec. 2, Deep Rock et al, Prowant 1, nw ne nw, dr 3150 ft.

OKFUSKEE COUNTY—T 13n, R 9e, Sec. 14, Flynn & Morgan, Burton 1, ne sw se, dr 2560 ft. T 13n, R 9e, Sec. 15, Erwin et al, Allen 1, se sw ne, fsh bailer 3635 ft. T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, fsh 2785 ft. T 12n, R 10e, Sec. 3, Sheppard et al Sheppard 1, se nw sw, 4-inch at 3664 ft, fsh.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, Martin 1, nw c se, td 1001 ft, sd.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw nw se, sand 5556-60 ft, dr bridge.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co., Sanders 1, nw ne sw, 2M gas 1800 ft, sd 2692 ft.

LATIMER COUNTY—T 6n, R 22e, Sec. 23, Limestone O&G, Shaw 1, nw ne nw, show gas 1570-77 ft, sd 3150 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 17, Prairie & Slick, Dills 1, c se nw, dr 4970 ft. T 13n, R 3w, Sec. 35, Magnolia & Ramsey, Johnson 1, ne ne sw, dr 6315 ft. T 13n, R 1w, Sec. 13, Tom Slick, Martin 1, c nw nw, td 6965 ft, w.o.c. 6643 ft. T 12n, R 4w, Sec. 17, C. F. Cuniff, St. Joseph 1, sw ne sw se, w.o.c. 5990 ft. T 11n, R 2w, Sec .3, Ryan Consolidated, Lawton 1, ne c nw, dr 6558 ft.

POTTAWATOMIE COUNTY—T 6n, R 3e, Sec. 36, Sykes et al, Cook 1, sw nw ne, rig.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Brownfield, Corbett 1, c sw ne, td 5940 ft, sd.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady et al, Canard 1, nw c sw, dr 3423 ft.

ROGER MILLS COUNTY—T 12n, R 24n, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft. T 11n, R 26w, Sec. 4, J. J. Rook, Davis 1, c nw ne, sd 2840 ft.

BECKHAM COUNTY—T 10n, R 22w, Sec. 29, Roy Johnson, Brewer 1, c nw, surface pipe set 321 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 9n, R 20w, Sec. 10, Southern Inv. Co., Musie 1, nw c, sd 300 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al, Denby 1, sw se ne, sd 1700 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Roy Good et al, Cliffell 1, nw c, sd 1010 ft, 3M gas. T 6n, R 24w, Sec. 17, I. T. I. O. et al, Fee 1, c ne, dr 2285 ft.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Texas Oil Co., Headley 1, ne c, dr 1885 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

COTTON COUNTY—T 3s, R 9w, Sec. 8, Empire, Chambers 1, nw c se, dr 4179 ft.

PONTOTOC COUNTY—T 5n, R 6e, Sec. 8, Magnolia et al, Killcrease 1, sw ne ne, dr 3140 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, se c ne, water 1860-70 ft, dr 3200 ft. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, dr 700 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, sd 2570 ft.

MURRAY COUNTY—T 2n, R 2e, Sec. 27, Chieftain Royalty Co., Hendricks 1, sw se nw, dr 950 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, sd 80 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex.Okla. Drlg. Co., Anderson 1, se ne se, fsh 2580 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet or gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—side-tracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

KANSAS

SUMNER COUNTY — Davidson et al's Strickland 1, sw se, 12-35-1w, rig.

MORTON COUNTY—Hydraulic Oil Co.'s State Land 1, nw se, 22-34-43w, dr 580 ft. Argus Gas Co.'s Little 1, c se, 24-34-40w, ru.

STEVENS COUNTY — Argus Gas Co.'s Asher 1, c nw, 7-35-37w, ru.

MORTON COUNTY — Argus Gas Co.'s Watson 1, c ne, 27-34-40w, rig.

STEVENS COUNTY — Argus Gas Co.'s Lipon 1, c ne, 2-34-39w, lcn. Hicks 1, c se, 12-34-39w, dr 2725 ft. Armstrong 2, c sw, 4-34-39w, dr 500 ft. Armstrong 3, c se, 3-34-39w, dr 1400 ft. W. Sidwell et al's Kelly 1, sw ne, 16-34-38w, sd 1600 ft.

MORTON COUNTY — Argus Gas Co.'s Mangle 1, c sw, 6-34-39w, ru. Argus Gas Co.'s Thompson 1, c sw, 7-34-39w, ru.

STEVENS COUNTY — Argus Gas Co.'s Hayward 1, c sw, 9-34-39w, dr 1250 ft. Parker 1, c ne, 30-34-38w, dr 2896 ft, 5 mil ft gas.

MORTON COUNTY — Argus Gas Co.'s Dorth 1, c ne, 20-34-39w, ru.

STEVENS COUNTY — Argus Gas Co.'s Barrows 1, c sw¼, 32-34-38w, dr 2287 ft.

BARBER COUNTY—Skelly's Temple Ranch 1, sw ne, 13-34-15w, top Viola 5246 ft, dr 5493 ft.

SUMNER COUNTY—Disney et al's Foy 1, ce½ se, 14-34-1w, rig. E. B. Shawver's Werk 2, c ne se, 29-34-2e, mach.

MORTON COUNTY — Argus Gas Co.'s Hayward 2, c nw¼, 31-33-39w, ru. Garner 1, c se, 18-33-39w, lcn. Low 1, c se se, 16-33-40w, rog. Chambers 1, c nw¼, 25-33-40w, ru.

STEVENS COUNTY — Argus Gas Co.'s Stone 1, c ne, 3-33-39w, lcn.

MORTON COUNTY — Argus Gas Co.'s Morgan 1, c nw, 8-33-39w, lcn.

STEVENS COUNTY—Agate Oil and McNabb's Gregory 1, nw se, 19-33-38w, rig. Argus Gas Co.'s Pride 1, c nw, 8-in 2585 ft, r.u.s.t.

BARBARA COUNTY—Barbara Oil's Hamblin 1, c sw nw, 24-33-13w, rog. Valentine's Patterson 1, nw se sw, 2-32-9e, dr 1690 ft, sd.

STEVENS COUNTY—Mangle's Youngren 1, c se nw, 24-32-39w, sp and sd.

MORTON COUNTY — Argus Gas Co.'s Hawes 1, c sw¼, 31-32-39w, lcn.

STEVENS COUNTY — Argus Gas Co.'s Gustafsen 1, c sw¼, 29-32-36w, lcn. Roach 1, c ne¼, 34-32-38w, ru. Cross 1, c se, 19-32-37w, 8-in at 2600 ft, r.u.s.t. Ponter 1, c sw, 27-32-37w, 8-in at 2693 ft, r.u.s.t.

BARBER COUNTY—Phillips & Robertson's Powell 1, c se se, 11-32-10w, 5 mil ft gas, sd 4023 ft.

COWLEY COUNTY — Roth & Faurot's Adams 1, c sw ne ne, 19-32-8e, td 2147 ft, fsh casing. Tom Pine's Boyd 1, nw ne, 32-32-4e, rig.

HARPER COUNTY—Beeler et al's Bear 1, c ne, 21-31-6w, sd 1830 ft.

SUMNER COUNTY—Hatfield et al's Dauber 1, ne c, 18-30-1w, sp and sd.

KIOWA COUNTY—Phillips-Prairie's Bean 1,ne se, 10-30-17w, dr 285 ft.

GRANT COUNTY—McKenna et al's Sullivan 1, ne c, 12-29-38w, sp.

KIOWA COUNTY—McKenna et al's Ralston 1, c ne, 14-28-20w, ru and sd.

FORD COUNTY—McNabb et al's Fowler 1, c se, 26-27-22w, sd 400 ft.

BUTLER COUNTY—T. C. Johnson's Heath 1, ne se, 12-27-3e, dr 1200 ft.

GREENWOOD COUNTY—Mallory et al's Denchfield 1, se nw, 12-27-9e, sd 660 ft.

BUTLER COUNTY—Alladin Pet.'s Metzger 1, c nw se, 23-28-3e, ru.

GREENWOOD COUNTY—L. C. Mahan's Binns 1, se nw, 23-27-11e, dr 1000 ft. F. Konkay et al's Rook 1, nw ne ne, 7-27-12e, set 6-in cas at 1820 ft.

PRATT COUNTY—Wilcox's Unknown 1, sw nw, 7-26-15w, td 3543 ft, ur 8-in.

RENO COUNTY—Valerius' Stevens 1, c ne se ne, 6-26-7w, td 2950 ft, sd. Tom Palmer & Phillips Pet.'s Horsch 1, ne se, 14-26-5w, rog.

SEDGWICK COUNTY—Travender et al's McLean 1, se sw se, 23-26-1w, sd 975 ft.

BUTLER COUNTY—Gypsy's Osborne 1,

Keep That Hole Straight!

SYFO CLINOGRAPH

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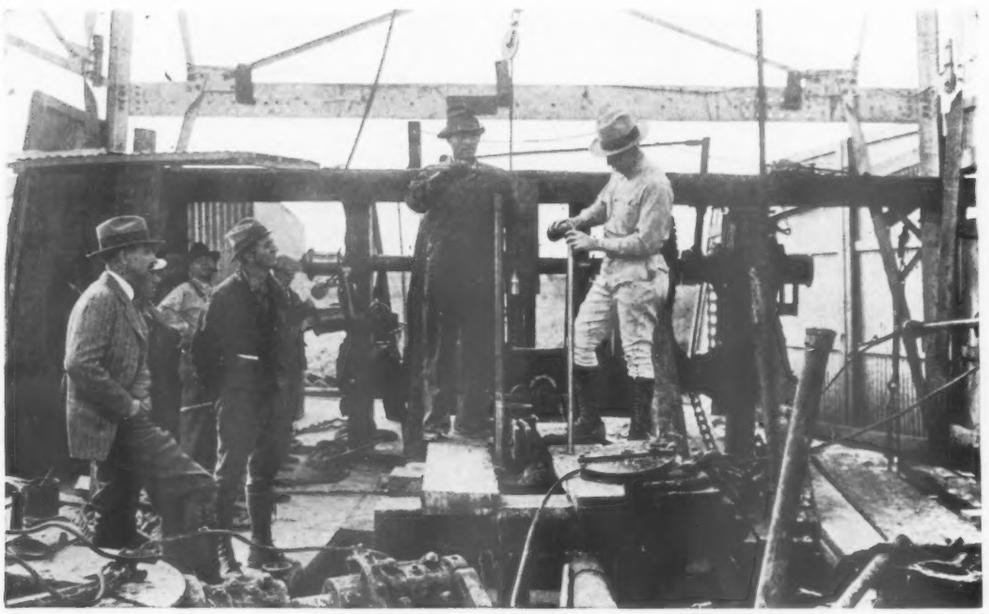

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The presence of crookedness in a hole is not indicated by any clear cut evidence recognizable from drilling operations—until trouble starts. Even then the major portion of the grief falls on the owner after the well has been brought in and not on the drilling contractor.

As a result well owners are today insisting that the hole be surveyed as it is drilled, making only a fixed latitude from the vertical permissible—no more. For verifying the result and course of the hole, the SYFO Clinograph affords the best check.

The SYFO Clinograph represents a radical improvement in the design and method of operation of inclination measuring instruments. Its advantages may be summarized as follows:

It affords a direct and accurate record. The record is easily obtained *without the use of dangerous acids.* The test is quickly made. The record is on paper and can be filed for reference. Ruggedly built and will operate without decrease in efficiency. Operates on wire line running through drill stem or on sand or bailing line in open hole.

WRITE FOR DESCRIPTIVE LITERATURE AND RATES

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DALLAS PHILADELPHIA, PA. TULSA

nw se, 22-26-3e, rig. Liggett's Guanther 1, c se ne nw, 29-26-7e, sp and sd.

FORD COUNTY—Swain et al's Kenthorne 1, c nw, 21-25-24w, dr 2250 ft, sd.

EDWARDS COUNTY — Dixie-Amerada's McCarty 1, sw, 22-25-17w, td 4903 ft, running 5-in.

GREENWOOD COUNTY—Bundy-Smith & O'Niel's Ford 1, ne nw, 28-25-13e, sp and sd.

PAWNEE COUNTY—Skelly's Milhouse 1, c se, 34-23-17w, dr 2990 ft.

STAFFORD COUNTY — Gibson et al's Mueller 1, c sw, 11-23-14w, dr 4449 ft.

BUTLER COUNTY—Elam et al's Hopkins 1, c se sw se, 26-23-4e, dr 2130 ft.

STAFFORD COUNTY—Midwest's Richardson 36, se c, 36-22-12w, dr 515 ft. Boucher's Groves 1, ne c, 9-22-11w, td 2035 ft, dr 10-in. Boucher's Christensen 1, nw c, 22-22-11w, dr 1345 ft.

RENO COUNTY — United Petroleum's Houston 1, nw c, 4-22-10w, rig. Witt et al's Olsen 1, se nw, 14-22-6w, sd 4084 ft, hfw.

HARVEY COUNTY—Gypsy's Shine 1, se sw, 22-26-3e, 8-in at 3443 ft, r.u.s.t. Gypsy's Hege 1, c se nw se, 13-22-2w, dr 3035 ft.

COFFEY COUNTY—Kinsey et al's Bahr 1, se c, 24-22-13e, sp and sd.

RICE COUNTY—Burgher's Fair 1, c ne se se, 14-21-10w, td 4003 ft, hfw, sd.

McPHERSON COUNTY—Harry Skelly et al's Neufeldt 1, se ne, 19-21-3w, rig.

LINN COUNTY—Ferguson & Hiatt's Carple 1, ne se sw, 22-21-22e, rig.

RICE COUNTY — Miller & Brown's Schwartz 1, c sw nw sw, 10-20-10w, sp. McCulloch's Williams 1, c ne, 35-20-8w, td 2790 ft, co.

McPHERSON COUNTY—Millmack's Decker 1, nw c, 11-20-3w, td 2960 ft, fsh bit.

MARION COUNTY—Empire's Hicbert 1, c se sw sw se, 20-10-2e, rig.

CHASE COUNTY — Steinbushel et al's Stephenson 1, ne sw, 4-20-6e, dr 1740 ft.

RICE COUNTY — Hoffine, Lee & Shell's Sled Farm Corp. 1, c sw¼, 33-19-6w, ru. Danciger's Bell 1, c sw, 16-19-8w, fsh, td 3498 ft.

MARION COUNTY—Marshall et al's Higc se sw se, 20-10-2e, rig.

CHASE COUNTY — Steinbushel et al's Cook 1, se c, lot 27, 31-19-8e, dr 2560 ft. Chase County Gas Co.'s Weirhoff 1, c sw nw, 31-19-6e, mach.

RICE COUNTY—Syndicate Oil's Mohr 1, c sw, 2-18-16w, rog. Tatlock et al's Ploog 1, c sw se, 33-18-9w, dr 330 ft. McPherson Gas & Shell's Jennings 1, c ne sw nw, 29-18-8w, ru.

McPHERSON COUNTY—Simmons & Canary et al's Bishop 1, c nw sw, 15-19-1w, lcn.

CHASE COUNTY—Urschell et al's Lipps 1, c sw sw, 27-18-5e, dr 2020 ft.

RUSH COUNTY—McPherson Gas' Brach 1, c nw, 24-17-16w, rog.

SALINE COUNTY—Dixie's Miller 1, c ne se se, 9-16-3w, dr 1800 ft.

MIAMI COUNTY—Clark et al's Vaughn 1, se sw, 28-17-22e, tl 980 ft.

DICKINSON COUNTY—Hiatt & Durham's Wendt 1, nw c, 17-16-2e, sp.

MORRIS COUNTY—Urschell et al's Scott 1, ne sw, 6-16-6e, dr 2115 ft, sd. Hankenson et al's Sessnum 1, sw se, 24-16-9e, rig.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw, 4-15-20w, dr 3357 ft, sd.

RUSSELL COUNTY—Empire-Prairie's Ochs 2, se ne, 23-15-14w, rig. Slick et al's Bernick 1, se sw, 23-15-13w, lcn.

DICKINSON COUNTY—Cress et al's Sandon 1, ne c, 12-15-2e, ru and sd.

TREGO COUNTY—Dixie-Amerada's Reitmeyer 1, c ne ne, 19-14-21w, dr 4309 ft.

RUSSELL COUNTY—Imo O&G's Wambly 1, c se nw ne, 7-14-14w, dr 1880 ft.

DOUGLAS COUNTY—Steinbushel et al's Unknown 1, sw ne nw, 34-14-21e, dr 1000 ft.

ELLIS COUNTY — Streeter & Stearns, Leiker 1, sw ne, 26-13-20w, sd 1294 ft, sd.

GOVE COUNTY—Valerius et al's Todd 1, nw c, 24-13-27w, ru and sd.

RUSSELL COUNTY—Austin Drlg. Co.'s Rockefeller 1, se c, 6-13-12w, dr 425 ft, sd.

SALINE COUNTY—Twin Mounds Oil Co.'s Weis 1, c 2½ ne nw, 20-13-4w, dr 1255 ft.

DICKINSON COUNTY—Emery-Curtis & Bryan's Hevner 1, c nw se, 31-13-3e, dr 2550 ft. Severs et al's Larringood 1, ne sw, 13-13-2e, sp. Kroeger et al's Dische 1, c nw ne ne, 17-13-2e, sp.

TREGO COUNTY—Day's Gugler 1, c sw ne ne, 36-12-21w, sd and sp.

PAWNEE COUNTY—Central Commercial's Helms 1, se ne, 2-12-20w, dr 1490 ft.

DICKINSON COUNTY—E. H. Morgan's Whitehair 1, nw se, 9-12-1e, sd 1768 ft.

SHAWNEE COUNTY—Jenkins & Scott's Hadon 1, ne se, 8-12-14e, td 2180 ft, sd. Jenkins & Scott's Hadon 1, se nw, 10-12-17e, dr 1800 ft, sd.

ELLIS COUNTY—Byrens et al's Fisher 1, ne se, 4-11-20w, sd 1000 ft.

RUSSELL COUNTY — Gilbreath et al's Bratton 1, c ne, 33-11-13w, sd 1010 ft.

SHAWNEE COUNTY — Jenkins & Scott's Sherman 1, nw ne, 28-10-15e, sd 985 ft.

ROOKS COUNTY—Krueger's Steis 1, nw se sw, 12-9-16w, sd 570 ft.

GRAHAM COUNTY—Gulf Coast Oil's St. Johns 1, ne sw se, 27-8-25w, dr 2790 ft.

CLAY COUNTY—Chrisler's Tivier 1, sw c, 19-8-3e, sp and sd.

SHERIDAN COUNTY — Mandolin's Unknown 1, c se sw sw, 27-7-26w, sp and sd.

RILEY COUNTY — Derby-Skow Bros.' Landstrom 1, ne c, 32-7-5e, sd 2270 ft. Grey et al's Smith 1, ne se, 30-6-6e, sd 1970 ft.

MARSHALL COUNTY — Swicker & Simcox's Remple 1, c n½, 22-4-9e, td 1000 ft, sd. Blazier et al's Runkel 1, se nw, 13-2-6e, mach.

ARKANSAS

CALHOUN COUNTY—Tidal Oil Co.'s Ark. Timber Co. 1, 3-16-14, rig up.

COLUMBIA COUNTY — L. E. Parker's Franks 1, 25-19-22, sd 2831 ft.

CLEVELAND COUNTY — Donnell et al's Fee 1, 35-11-9w, fsh for tools 960 ft.

CLEBURNE COUNTY — Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, set 10-inch cas 2485 ft, dr 3090 ft.

DREW COUNTY—McClintock & Goedke's Ogle 1, 33-13-5, set 8-inch cas 1800 ft, fsh for ds 2625 ft.

FAULKNER COUNTY—Gold Creek O&G Co.'s Sterner 1, 17-4-13, TA 3872 ft; Sterner 2, 17-4-13, rig up wo.

FRANKLIN COUNTY — Ozark Nat. Gas Corp.'s McElroy 1, arr plug back, td 3100 ft. Red Bank Oil Co.'s Hamm 1, 33-10-26, dr hard shale 881 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, sd wo 3604 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, TA 1400 ft.

JOHNSON COUNTY—Ark. La. Pipe Line Co.'s Cline 1, 16-10-24, dr 950 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-inch cas at 2100 ft, td 5600 ft. Western Coal & Mining Co. 1, 20-9-25, sp set 10-inch cas 75 ft, dr 100 ft.

LOGAN COUNTY—M. W. Greesom's Perk 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-6-26w, ur 5 3/16-inch cas at 3510 ft, td 3600 ft.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, TA 2941 ft. C. F. McDonald's Black 1, 12-13-28, sd wo 2180 ft. Buck Oil Co.'s Taafe 1, 23-12-32, coring lime 2376 ft.

MADISON COUNTY—J. W. Baxter's Hallam 1, 17-16-26, lcn.

NEVADA COUNTY — Ray Davis et al's Henry et al 1, 10-12-29, lcn abn, will not drill.

OUACHITA COUNTY — Anderson et al's Buck 1, 7-15-17, fsh for 1 joint ds at 2735 ft. Magnolia Pet. Co.'s Grayson 2, 21-15-19, set 8⅛-inch cas 1478 ft, set 5¾-inch cas 2118 ft, wosr, td 2193 ft. Buffalo Oil Co.'s Campbell 1, 11-15-19, rig up, sd acct high water.

PIKE COUNTY—Theo. Davis, Tr.'s, Ruth Wilson 1, 28-5s-26w, sd 718 ft.

POPE COUNTY—Cosden Oil Co.'s Mo. Pac. R. R. 1, 13-9-19w, set 8¼-inch cas 3812 ft, dr 4110 ft. Ark. La. Pipe Line Co.'s Crotts 1, 16-9-21w, set 7-inch cas 1256 ft, dr 1298 ft.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, sp set 8-inch cas 185 ft, dr 200 ft. Lavaca O&G Co.'s Cason 3, 21-8-30, dk; Southland 1, 28-8-30, dr shale 2650 ft; J. O. Ingram 7, 22-8-30, dk; Cason 9, 21-8-30, dk. A. G. Williams, Jr.'s, Patterson 1, 27-8-30, lcn.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26w, fsh for tools, td 1420 ft.

ST. FRANCIS COUNTY — Brownlee Oil Co.'s Whitted 1, 20-4-1w, dr 2393 ft.

UNION COUNTY—H. L. Hunt's Pratt 6, 7-18-15, fsh for lin, td 2214 ft; Trammell 1, 28-18-12, coring 2681 ft. Malloy & Co.'s Robertson 3, 6-18-15, lcn; Goodwin 4, 36-17-16, set 6⅝-inch cas 2186 ft, 37 ft bro sand co td 2239 ft; Murphy 1, 1-18-16, rig up. S. B. Hickman et al's Hogg 1, 35-16-17, set 10-inch cas 100 ft. Southern Crude Oil Purch. Co.'s Oliver 1, 11-18-13, tested 1½ joints mud stain oil 2270-98 ft, tested dry 2280-2308 ft, sd tr bailer, td 2308 ft. Lion O. R. Co.'s Ballard 1, 10-18-13, sd in soft red beds 4501 ft. J. W. Olvey's G. G. Simmons 1, 15-18-13, TA 3568 ft. Federal Pet. Co.'s Tillman 1, 9-18-13, lcn. Marine Oil Co.'s P. Winn Est B-3, 10-18-13, dr hard sand 2260 ft. Simms Oil Co.'s Simmons B-1, 10-18-13, swabbed fluid 65 per cent sw within 300 ft bottom, arr deepen, td 3527 ft. South El Dorado Oil Co.'s R. Traylor 1, 9-19-15, dr 200 ft. Modisett Drilling Co.'s Union Sawmill 4, 14-18-14, lcn. Carter et al's Burnside 1, 23-18-14, sp set 10-inch cas 109 ft, dr water well. Ark. Fuel Oil Co.'s Burns 1, 14-18-17, set 10-inch cas 165 ft, dr 765 ft. O. W. Estes' Telford 1, 35-17-15, setting 4½-inch cas 2882 ft, td 2906 ft. Root Ref. Co.'s Jerry 2, 21-17-14, set 10-inch cas 176 ft, dr 1500 ft. Sunby et al's Perdue 2, 23-16-14, set 10-inch cas 206 ft, dr 1450 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13n-29w, dk. Lincoln Lease Holding Co.'s Townsite 1, 30-15-32, sd 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, TA 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 692 ft.

WHITE COUNTY—Letona Synd.'s Letona 1, 35-9-8, 5 3/16-inch cas 3500 ft ,sd 3650 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 3n-7n-21w, recemtd 6⅝ cas 3637 ft, td 3710 ft.

MISSISSIPPI

HINDS COUNTY (Jackson)—
Louisiana Gas & Fuel Co., Harris 1, 36-6-1e . . . . . * 3249

MONROE COUNTY (Amory)—
Amory Pet. Co., Hall 1, 8-13-17. . . . * 3045

ALCORN COUNTY—Alcorn Pet. Co.'s Matthews 1, 14-2-7, sd while fsh for 4 joints 6-in cas preparatory to running 5 3/16-in cas at 2393 ft, td 2735 ft.

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 20-13-3w, fsh for 127 ft 8¼-in pipe collapsed at bottom of hole, td 1414 ft. Fleming 2, 15-13-2w, dk pat.

HINDS COUNTY (Jackson Dist.)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, fsh for 400 ft 4-in dr pipe, td 2905 ft. Jackson O&G Co.'s Mayes 1, 2-5-1e, supplying gas to nearby test through separator, td 2585 ft. Taylor 1, 35-6-1e, set 6⅝-in cas 2894 ft (corrected depth), tested sw, cas seat defective, base of chalk 2925 ft, coring sand streaks shale 2943 ft. Central Cotton Oil Co. 1, 3-5-1e, dk. Louisiana G&F Co.'s Harris 1, 35-6-1e, set 8⅛-in cas 2506 ft, base chalk 2904 ft, dry abn in igneous material, td 3239 ft. Love O&G Co.'s Bridges-Hilzim 1, 35-6-1e, arr abn after sp. Gordon 1, 2-5-1e, rig up. Love Pet. Co.'s Mendoza 2, 12-5-1e, rig up. Interior O&G Co.'s Mayes 1, 2-5-1e, dk. Tri-State O&G Co.'s E. S. Wilson 1, 23-6-1e, dk. Dome O&G Co.'s Elton 1, 5-4-1e, set 9-in cas 818 ft, dr hard sandy lime 1310 ft. Magnolia State Oil Co.'s Brown 1,19-6-1e, dk moved, still a lcn. Universal Gas Co.'s Holliday & Ross 1, 8-6-2e, rig up (test formerly carried as Weir et al's). Cane River O&G Co.'s Lufkin 1, 15-5-1e, dk. Ohio Oil Co.'s School Board 1, 16-5-1e, lcn.

KEMPER COUNTY (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigging up wo.

LAUDERDALE COUNTY (Meridian Dist.)—Lauderdale O&G Co.'s Lackey 1, 2-7-16, set 8¼-in cas 2790 ft, tested 4 fourbles sw through ds 3223 ft, sr td 3303 ft. Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, sd in sandy shale 2826 ft.

MONROE COUNTY (Amory Dist.)—Amory Pet. Co.'s Hall 1, 8-13-17, junked, abn td 3045 ft. Amory Dev. Co.'s Bourland 1, 2-13-19, ar resume dr in lime, td 2912 ft. Park Bowser Cowart 1, 2-12-19, sd 85 ft.

RANKIN COUNTY (Jackson Dist.)—Gulf Ref. Co.'s Rainey 1, 13-5-1e, hit base chalk 2848 ft, dr igneous rock 3229 ft. Interior O&G Co.'s Moore 1, 28-6-2e, wo, 10-in cas to set 900 ft. Pearl River O&G Co.'s Littlefield 1, 12-5-1e, sp.

WARREN COUNTY (Vicksburg Dist.)—

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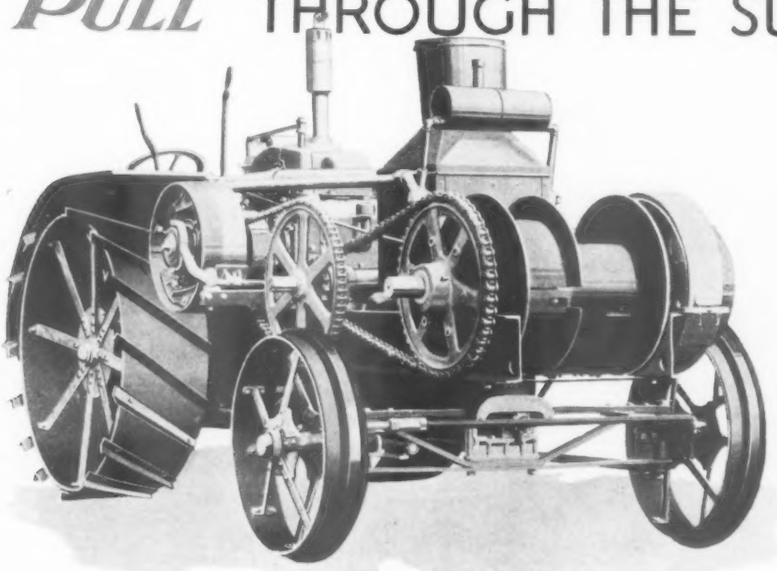
TO *PULL* THROUGH THE SUMMER



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As summer equipment, the Rumely OilPull Winch Tractor is without equal. No amount of work in hot weather can overheat it. Triple Heat Control, which is the OilPull's scientific formula for regulation of working temperatures, renders this super winch tractor impervious to heat or cold. One of the chief factors in this formula is oil cooling instead of water cooling, which preserves an even heat in summer,—eliminating scored cylinders, burnt valves, broken rings and other damage,—and will not freeze in winter.

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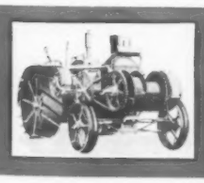

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18 S. MADISON TULSA, OKLA.

Henderson et al's Dornbusch 1, 8-18-15, sd, wo with ds stuck in hole, td 2475 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collette et al's Blackmer 1, 14-11-4w, topped red beds 2316 ft, sr at 1600 ft to set 8¼-in cas 2300 ft, td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY—P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, dr hard white lime 1510 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas td 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, ta 1200 ft. Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2, last report dr 720 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, set 6-in cas 1045 ft, dr 1875 ft.

NORTH CALIFORNIA

KERN COUNTY

BELRIDGE—J. H. Kennedy's No. 1, 5-29-21, dr brown shale 2000 ft. Rio Grande's Garcia 1, 18-28-22, re-dr 2875 ft. K. C. Wallace's No. 1, 32-29-21, dr shale 3038 ft.

BUTTONWILLOW COUNTY — Milham Exploration Co.'s Kern 6, 8-28-23, m on cas 4945 ft.

COMANCHE COUNTY — W. W. Stabler's No. 1, 4-11-18, material on ground.

EDISON—F. M. Sayre's No. 1, 5-30-29, m on 4½-inch cas, td 4222 ft. Shell's No. 2-1, 33-29-29, dr hard sand 4420 ft.

GOULD HILLS—Bomke and Bail's Larson 1, 12-29-20, dr hard sand 2699 ft. Casa Mira Oil Co.'s Theta 1, 20-28-29, dr shale 3488 ft.

LERDO—Shell's Lee 1-1, 23-28-26, dr shale 2525 ft.

McKITTRICK—Ohio's M. M. 1, 32-20-22, dr hard shale 5422 ft.

PATTIWAY—H. A. Bardeen's Klipstein 1, 18-10-23, pulling 13⅜-inch cas, td 895 ft; Ramsey 1, 10-10-23, dr gray sand 1922 ft.

MIDWAY—Union's Reeves 1, 27-32-23, dr shale 3010 ft.

ROUND MOUNTAIN—Gerrard & Phillips' No. 1, 32-27-29, fsh for tools 1640 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, dr shale 1500 ft.

SHALE HILLS—Girard Oil Co.'s Watkins 1, 28-26-18, bldg rig, td 910 ft.

TEMBLOR HILLS—Shell's Gonyer 1, 32-32-23, dr hard sandy shale 3670 ft.

WEED PATCH—Shell's Porter Day 1, 29-30-29, dr hard sand 4350 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT—Bolsa Chica's Auger Permit 191-1, 24-4-9, bldg well foundation in ocean.

CARPENTERIA—Continental's Bailard Permit 124-1, dr hard shale and shell 4700 ft. George F. Getty's Casper Permit 130-1, 32-4-25, dr shale 600 ft; McDonald 1, 32-4-25, dr out cmt, td 1025 ft.

CASITAS PASS—Standard's Shepard 1, 26-4-25, dr shale 2600 ft.

CASMALIA—Wildcat Oil & Royalty Co.'s Donovan 1, 20-10-35, fsh for dr pipe, td 4530 ft.

EL TORO—Shell's Fithian 1, 18-4-25, dr hard sand 3040 ft.

GATO RIDGE—Barnsdall's Tegnazzini 1, 9-8-32, dr shale with oil showings, 1420 ft.

GOLETA — Walter Barnhart's Pomatto 1, 1-4-29, will plug back from 2155 ft. General Pet.'s Permit 138-1, dr shale 4115 ft; More 2, cmt off fsh 4343 ft.

LOMPOC—Prairie Oil & Gas' Shyvers 1, 11-7-35, dr shale 2820 ft.

ORELLA—General Pet.'s Erburu 5, rigging rotary.

POINT CONCEPCION—Standard's Gerber 1, swabbed wet, td 4300 ft, well flowing 100 bbls water. Universal Consolidated Oil Co.'s Rancho Concepcion 1, 30-5-34, dr shale and shell 2400 ft.

PURISIMA—Vaqueros Major Oil Co.'s Arnold 1, 5-7-33, dr sand and shale 1506 ft.

SANTA MARIA — O. C. Fields Gasoline Co.'s Norswing 1, 8-9-33, dr hard sand 3378 ft.

SANTA YNEZ—Deuell & Cole's Brinkinhoff 1, 9-7-30, dr gray sand 2300 ft.

VENTURA COUNTY

CAMARILLO—Camarillo Oil Synd.'s Rancho Calleguas 1, basalt 375 ft.

FILLMORE—General Pet.'s Burson 1, 6-3-19, coring 1800 ft. Oil Search Corp.'s McNabb 1, 29-4-19, dr hard sand 670 ft.

HOPPER CANYON—E. A. Fennell's Lankershim 1, 13-4-19, dr shale 1620 ft. George H. Hadley's No. 1, 13-4-9, fsh recovered, td 780 ft.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, 4-4-18, dr hard shell 2265 ft.

RINCON—Associated's Snowball 1, 19-4-24, dr gray sand 1860 ft. Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, dr shale and oil sand 7100 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, dr sandy shale 4375 ft.

SANTA PAULA CANYON—Leonard Jones' Pure Oil 1, 15-4-21, rig. Empire Oil Co.'s Steen 4, 13-4-21, re-dr 3175 ft.

SATICOY—Standard's Citrus 5, 10-2-22, re-dr 8025 ft.

SIMI—Richfield's Tapo 1, plugged to 1800 ft, co.

SOMIS—Shell's Everett 1, rigged up to sp.

TIMBER CANYON—Southern Exploration Co.'s Timber Canyon 1, 18-4-20, sd 1100 ft.

VENTURA—Prairie Oil & Gas Co.'s Sexton 1, 30-3-22, dr sandy shale 4770 ft.

MISCELLANEOUS

FRESNO COUNTY — Currency Pet. Co.'s No. 1, 28-21-14, fsh 3610 ft. John Knudsen's No. 1, 14-21-14, dr shale 1780 ft. Richfield's Schrock 1, 33-22-16, sd 50 ft.

KERMAN—Rio Grande Oil Co.'s Edison 1, 35-13-16, dr shale 4882 ft. Western Gulf's Penoche Welsh 1, 26-15-12, dr shale 4975 ft.

KINGS COUNTY—Wellport Oil Co.'s No. 1, 9-24-17, fsh for drill pipe 3625 ft. J. E. O'Donnell's No. 1, 7-23-20, 8¼-inch cas lodged at 3100 ft, td 4310 ft.

MENDOCINO COUNTY — Twin State Oil Co.'s Soldani 1, 14-12-17, dr 3315 ft.

MONTEREY COUNTY — Standard's Piedmont 1, 23-22-7, fsh for drill pipe 4330 ft. Union's Paige 1, 8-22-8, dr gray sand 3222 ft.

SAN LUIS OBISPO COUNTY—Panorama Oil Co.'s Panorama 1, 7-31-21, fsh for 6¼-inch cas 4010 ft. Paso Robles Synd.'s Emerick 1, 34-27-15, dr gray sand 3900 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale 2400 ft. Texas Pacific Coal and Oil's No. 1, 25-32-14, pulling 5 3/16-inch cas, td 4000 ft.

SOUTH CALIFORNIA

BELLFLOWER—Clearwater Pet. Co.'s Candler 1, dr gray sand 5178 ft.

FULLERTON—Brea Canyon Oil Co.'s Fee 47, dr hard shale 3669 ft. L. C. Simmel's Todd 1, dr hard sand 1200 ft.

HAWTHORNE—Republic Pet. Co.'s Insurance 1, rig.

HUNTINGTON BEACH—Vaqueros Major Oil Co.'s Permit 194-1, validated, sd.

MONETA—Ohio's Fish 1, dr shale streaks hard sand 4875 ft.

NEWHALL—Consolidated Oil Co.'s Hammond 1, dr shale 1707 ft.

NEWPORT — Mesa Pet. Co.'s B. G. 1, bridged at 2800 ft, sd. Standard's Irvine 1, rig completed.

PUENTE HILLS — Bardeen Pet. Corp.'s Didier 1, lcn. Keck and Hall's Belyea 1, grading for rig. Marcell Pet. Co.'s Marcell 1, dr shale 2078 ft. Union's Rimpau 1, co 4395 ft; Sansinena 11, straightening hole, td 3275 ft. Western American Pet. Co.'s Rowland 1, rig. Western Gulf's Diamond Bar 1, dr shale 4475 ft.

ROSECRANS — Burlingham Pet. Corp.'s Hardy 1, dr shale and sand 3320 ft. William Diller's Castruccio 1, dr gray sand 6250 ft. McMahon & McDonald's Kirst 1, sp.

SAN FERNANDO—Shell's Andrews 1-1, dr gray sand 2555 ft.

SAN JOSE HILLS—Richfield's Benardette 1, lcn.

SANTA FE SPRINGS — Tureco Oil Co.'s Cole 1, dr shale 2180 ft.

TORRANCE—Archer Oil Co.'s Watson 1, sd 5618 ft. California Ventura Oil Co.'s Holston 1, rigging up.

MOUNTAIN STATES

NEW MEXICO

CHAVES.—Warman Oil Trust's Blackdom 1, ne 27-13s-24e, sd indef 1195 ft.

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, dr at 3000 ft.

EDDY—R. D. Compton's State 1, nw 2-20s-25e, abn 1940 ft. Henderson et al's Grier 1, nw 21-16s-31e, drilling at 3500 ft. Lockhart et al's Parker 2-X, se 23-17s-30e, rigging. Leonard & Levers, State 2, 21-17s-29e, 9½m at 2283 ft. Pueblo Oil Co.'s Russell 5, nw 18-17s-31e, dr 3200 ft.

LEA—Shell Pete Corp., State 1, ne 32-18s-38e, dr 3725 ft. Shell's McKinley 1, sw 19-18s-38e, dr 3510 ft. Empire's Closson 1, se 6-22-36, plug back to 3800 ft. Walker et al's Terry 2, se 10-19s-38e, dr 1530 ft. Empire's Fowler 1-C, ne 31-18s-38e, dr 1500 ft. Morton et al's State 1, nw 32-11s-38e, dr 4728 ft. Tidal Oil Co.'s Coleman 1, ne 17-21-36, dr 2000 ft. Cranfill & Reynolds' State 1-C, sw 16-23s-36e, dr 3900 ft. Fisher & Lowrie's State 1, nw 11-18s-36e, show much oil at 5200 ft. Humble O. & R. Co.'s Bowers 2-A, se 30-18s-38e, dr 700 ft. Walker et al's Terry 2, se 10-19s-38e, dr 2110 ft. Texas-Pacific's State 1G, 24-18s-37e, dr 2800 ft. Hobbs High Oil Co.'s State 1, se 35-18s-38e, standardized 276 ft. Ohio Oil Co.'s State 1, se 32-18s-39e, caving at 3186 ft. Ohio's State 1, 15-29s-36e, sd for water 917 ft. Maljamar O. & G. Corp.'s Baish 3, nw 21-17s-32e, dr 2900 ft. Midwest Ref. Co.'s State 36, sw 10-19s-38e, gas show 2892-2925 ft. Midwest's State 1e, nw 15-19s-38e, dr 1665 ft. Midwest's State 1, nw 15-19s-38e, cem 10⅜-inch at 1633 ft. Midwest's E. H. and M. Byers 33, ne 4-19s-38e, dr 1785 ft. Ohio Oil Co.'s State 1, 30-18s-38e, dr 2750 ft. Landreth Prod. Co.'s State 1, se 7-18s-38e, dr 1500 ft. Amerada Pete Corp.'s McKinley 1, nw 30-18s-38e, dr 2870 ft. Amerada's State 1-A, ne 32-18-38, dr 800 ft. Calif. Co.'s State 1, se 29-18s-38e, dr 235 ft. Gypsy Oil Co.'s Grimes 1, nw 32-18s-38e, dr 2830 ft. Prairie O. & G. Crump 1, ne 15-19s-38e, dr 3100 ft. Texas Prod. Co.'s State 1-C, 25-18s-37e, dr 900 ft. Geo. F. Getty Pete Co.'s McKinley 1, ne 30-18-38, dr 565 ft. Humble O. & R. Co.'s Bowers 2-a, 30-18s-38e, dr 1500 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, fsh 3250 ft. Wms. et al, A. T. S. F. 1, sw 19-18n-8w, dr 2000 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd at 825 ft. San Juan Pete Co.'s Government 1, sw 14-30n-7w, stand 270 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, dr 1535 ft. Southern Union Gas Co.'s Day 1, se 20-28n-10w, sd 1455 ft. Childers Dr. & Pr. Co., Westwater 2, nw 24-31n-16w, sd 2525 ft. Reserve Oil Co.'s Shaffer 2, ne 1-21n-14w, sd 780 ft.

SANDOVAL—Mayflower O&G Co.'s Marion 1, se 23-20n-2w, dr 1962 ft.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wtg dr line 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-17e, 8¼-inch at 3271 ft. Cibola Pete Co., Crown 1, se 9-13n-14e, ready to resume 320 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 21-12n-22e, stand 735 ft.

SOCORRO—Lockhart & Co.'s Stackhouse 1, 14-3s-6e, dr 2600 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stand 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-7s-7e, dr 645 ft.

VALENCIA—Rio Puerco Oil Co.'s N. M.-Ariz. Land Co. 2, ne 13-6n-2w, wtg for pipe 3145 ft. Acme Oil Co.'s N. M.-Ariz. Land Co. 1, 26-6-3, dr 4735 ft. Harlan et al's Harlan 1, 5-6n-2e, dr 4240 ft.

COLORADO

ADAMS—N. M. Slatt's Hill 1, se 27-25-64w, dr 1570 ft.

ARAPAHOE—McDebb Drlg. Co.'s Fitzsimmons 1, 7-45-66, dr 5572 ft.

ARCHULETA — Outwest Investment Co.'s Fitzhugh 1, sw 34-33n-1e, ready to spud.

BENT—Continental's Pipe Springs 1, se 27-27-49, fsh 6075 ft.

BOULDER—Reliance Oil Co.'s Erickson 1, nw 33-2n-70w, dr 3145 ft.

DELTA—Crawford O&G Co.'s McKissen 1, ne 28-15s-91w, dr 1100 ft.

DOLORES—Transcontinental's Glade 1, nw 30-41n-16w, co 5900 ft.

ELBERT—Belmont Oil Co.'s Maher 1, se 4-6-59w, standardizing 3720 ft.

FREMONT—Westerville Oil Co.'s State 1,

TEXAS AND OKLAHOMA FIELDS
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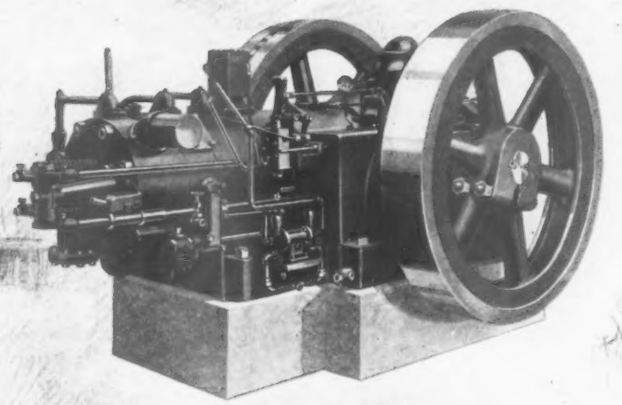

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Direct-connected through distance pieces to high-pressure air or gas compressor for gas lift operations.

nw 16-18-69, sd 1214 ft. Hammond & Roscoe's Beltrame 1, se 1-19s-70, sd 1800 ft.

GARFIELD—Fulton Pete Co.'s Permit 1, ne 8-8s-102w, rig up.

JACKSON—Midwest's Rich. 21X, nw 9-6n-80w, dr 3504 ft. P&R's Hendershot 1, ne 2-6n-81, dr 3790 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, co 3568 ft.

HUERFANO — Parker Club and Kinney-Coastal's Fee 1, se 4-28s-68w, fsh cas at 4116 ft. Elliott et al's Abeyta 1, nw 31-27s-65w, lcn.

LAS ANIMAS—Trinidad Dev. Co.'s Flontz 1, se 23-32-63, stand at 2700 ft, water trouble. American Helium Gas & Oil Co., Boling 1, sw 3-29-60, lost hole at 160 ft, and skidding rig.

LARIMER—Mosher et al, Reed 1, nw 28-4n-69w, bailer lost 3160 ft. Barrows et al, Barrows 1, se 7-11-68, sd 2310 ft. Continental's Scott 5, nw 6-9n-68w, taking down tools at 4315 ft. Deininger et al's Rembey 1, nw 35-4n-70w, to resume at 354 ft. Standard of Colo., Hertha 1, nw 21-4n-69w, fsh 2821 ft. Erbe Oil Co.'s Monroe 1, ne 26-11n-69w, lcn.

LA PLATA—McGarr Pete Corp.'s Red Mesa 1, ne 27-33n-12w, dr 1200 ft. Detroit Oil Assn.'s Olbert 1, se 9-35n-12w, dr 2654 ft.

LINCOLN—Kelly Oil Co.'s State 1, ne 26-14n-57w, stand 3350 ft.

MESA—Argo Oil Co.'s Hoel 1, ne 23-8s-104w, sdtr at 3000 ft.

MOFFAT — Vermillion O&G Synd.'s 1, se 23-9n-100w, stand at 642 ft. Texas Prod. Co.'s Berlin 1, ne 9-12n-100w, 6¼-inch at 2565 ft, to test show at 2570 ft. Midwest's Hannawalt 24, 4-6n-92w, ur 2706 ft. Mtn. Fuel Supply, 25-12-101, plugging back to gas at 2180 ft. S. H. Keoghan et al's State 1, sw 16-4n-101w, dr 400 ft.

MONTROSE — Uncomphagre O&G Co.'s Colorado 1, nw 27-50-10, resuming at 2031 ft.

MORGAN—Ind. Ter. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 1305 ft.

PUEBLO—Beulah Dome Co.'s Hedland 1, se 7-23-67w, sd 932 ft.

RIO BLANCO—Texas Prod., Potter 1, se 30-2n-69w, swbg tubing, td 5984 ft. White Eagle's Fordson 1-A, se 9-2s-96w, contract complete 4005 ft.

ROUTT—Gillespie et al's Omholt 1, se 29-4n-87w, ready to spud.

WELD—Platte Valley Pete Corp.'s Patterson 1, sw 24-6n-61w, dr 5940 ft.

WASHINGTON — Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, set 15½-inch cas at 1030 ft.

YUMA—Phillips Pete, Andrews 1, nw 3-2s-42w, ur to 5055 ft.

IDAHO

BANNOCK — Norton Bros. et al's Marsh Valley 2, lot 5, sec 19-10s-37e, dr ahead from 2650 ft.

CLARK—Monida Oil Co.'s Beaver Dome 1, nw 32-14n-36e, repairing, to resume 1140 ft.

POWER—Gem State Pete Co.'s Arbon Valley 1, nw 2-11s-33e, sd 3800 ft.

TETON—Grand Teton Oil Co.'s Horseshoe 1, se 33-5n-44e, dr 2465 ft. Teton Land & Leasing Co.'s Bevan 3, se 28-5n-44e, sd 1580 ft, making water so.

UTAH

BOX ELDER—Utah-Pennsylvania Oil Co.'s Penrose 1, nw 3-10n-4w, td 3410 ft. Leonora Mining & Milling Co.'s Swoboda 1, nw 9-8n-7w, co 2755 ft.

CARBON—St. Thos. Oil Co.'s 1-14s-9e, fsh 2300 ft. Price River Pete Co.'s Price 1, ne 16-14-10, td 3100 ft.

GRAND—Crescent Oil Synd.'s McCarthy 1, sw 27-21s-19e, gas 2045 ft, td 2200 ft. Utah Southern Oil Co.'s State 1, 26-21s-33e, carry 8-inch thru cave at 2300 ft. Cisco Springs Synd.'s Moss 1, sw 9-20s-23e, fsh pipe 3500 ft.

KANE—Midwest Refining Co.'s Parry 1, se 14-39s-1w, run 8⅝-inch at 3890 ft. Beaver Valley Oil Co.'s Blackrock 1, ne 20-25s-9w, fsh pipe 3500 ft.

SAN JUAN—Boulder Knoll Oil Co.'s Boulder Knoll 1, nw 17-34n-25e, stand 2640 ft. Continental's Boundary Butte 1, se 22-43-22, set cas 5612 ft.

UINTAH—Home Oil Co.'s Spahr 1, se 8-5s-21e, sd 1165 ft. Maude Ellen Oil Co.'s Neal 1, se 28-3s-21e, td 1850 ft. Western Venture Corp.'s Krumveida 1, se 6-5s-21e, sd 1515 ft.

UTAH—Diamond Oil Co.'s 1, nw 16-8s-5e, dr 1750 ft.

WYOMING

BIG HORN—P&R Gov't 3, 24-56-98, fsh tools 4234 ft. Westland Oil Co., Inc.'s 24-54-95, sd 360 ft Wisconsin Holdings, 4-55-97, sd 665 ft Yellowstone Pete Co.'s 7-57-97, dr 2780 ft.

CARBON—C. E. Bivens et al's Baggs 1, 35-13-92, co at 2200 ft.

CONVERSE—Pioneer Oil Co., 5-31-70, dr below 320 ft. Jno. Ackard, 21-31-69, res 3461 ft.

CROOK—W. F. Clark et al, 29-49-66, lcn.

FREMONT—Texas Prod. Co.'s State 1, 36-34-95, 3348 ft. P. & R, 1, 33-34-92, rig up for rotary, td 532 ft.

HOT SPRINGS—Midwest, 8 Weeks, 6-44-98, cas at 1825 ft. Ohio, Smith 1, 8-46-99, recem 4403 ft. Gebo Cons., 1, 23-44-95, try recover ur and jars at 1335 ft. C. F. Robertson et al's se 17-43-92, sd 450 ft.

JOHNSON — United Oil Co., 7-47-82, dr 1700 ft. R. C. Tarrant, 4-43-82, sd 600 ft. Dome Synd., 3, 4-43-82w, sd 720 ft.

LINCOLN—Midwest, Grey's River, 25-37-117, dr 1865 ft. Mtn. Oil Corp., 36-25-115, run 15½-inch at 815 ft.

NATRONA—Midwest, Midway 1, 23-35-79, set cas 240 ft. Casper Prod. Co., 36-36-81, bldg rig.

PARK—P. & R., Pitchfork 1, 14-48-102, repair boiler 2440 ft. Henderson Prod. Co., 31-58-99, sd 3000 ft. Resolute Oil Co.'s 17-27-101, dr 5115 ft. Cody Pete Co., Danker 1, se 22-57-98, dr below 3300 ft. Honolulu Cons., 14-48-102, ur at 2130 ft. Yellowstone Pete Corp., 7-57-97, hfw 3578 ft.

SWEETWATER—Vermillion Oil Co., 1, sw 16-12-99, 10-inch cem 2650 ft, to test gas.

WESTON — Gose Synd., 28-47-65, show at 4856 ft. Updike et al, Fiddler Creek 1, 11-45-64, resum at 1000 ft.

MONTANA

CASCADE—Peigan et al, 36-20n-3w, try so water in Sunburst. Eden Oil Co., 1, sw 27-18n-4e, sd 1326 ft.

DANIEL—Whitetail Oil Synd., 1, nw 10-36n-50e, sd 1467 ft.

FERGUS—Melton Corp., sw 24-21n-17e, set cas 2700 ft, prep to resume.

GALLATIN—California Co.'s Ringling 1, se 35-5n-7e, dr 4630 ft.

GLACIER—Glacier Oil Co., Omsberg 1, nw 33-35-5w, dr 350 ft. Kootenai O. & G. Co., 1, 13-35n-6w, dr 200 ft. Fulton Pete Corp., Hannah 1, ne 28-36n-12w, mvg in.

GOLDEN VALLEY — Golden Valley Oil Co., se 28-6-22, dr 750 ft.

LIBERTY—Square Deal Oil Co., Federal Land Bank 1, 1-32n-7e, dr 3530 ft. Thompson, Thompson 1, sw 7-34n-4e, wet gas, dr 2500 ft. Northland O&G Co., Yurnan 1, 35-33n-6e, more gas, run pipe 1800 ft. Sunburst O&R Co.'s Watford 1, ne 18-36n-6e, oil and gas at 1815-1900 and 2310-75 ft. Sunburst, McLaren 1, se 9-37-6e, spudding.

MUSSELSHELL — Minnesota - Flatwillow, Ivanhoe Dome 1, 7-11-31, resuming.

PETROLEUM — Minnesota-Flatwillow, 2, sw 5-12n-25e, ur td 2680 ft. Oregon-Flatwillow Oil Co., 1, 3-13n-26e, dr below 200 ft.

PONDERA—Hiland-Vandaele's Kendall 1, ne 35-30n-3w, sd 4215 ft. Miller Bros., Bruins 1, nw 17-28n-1w, rig up.

ROSEBUD—Prairie O&G Co.'s N. P. 1, 9-10n-39e, sd 2310 ft. Prairie's N. P. 3, 26-10-38e, co 2545 ft. Prairie's N. P. 4, 28-10-38e, sd 65 ft.

SHERIDAN—Cheyenne O&G Co.'s 1, nw 15-36n-53e, to res 1400 ft.

TETON—Texas Prod. Co., se 2-26-4w, dr 1665 ft. Andover Oil Co.'s Carlson 1, ne 5-24n-4w, dr 250 ft. Newman et al's Fitzgerald 1, 26-32n-1w, rig up. Rocky Mtn. O&G Co.'s Salmond 1, ne 4-23n-8w, dr 1400 ft. Earl Oil Corp.'s 1, 22-22n-82, cas at 1953 ft.

TOOLE—Anaconda ePte Co.'s Bartholote 1, ne 19-36n-2w, sd 1600 ft. John Thomas et al's Buckley 1, ne 1-37-4w, dr 1645 ft. Black Gold Pete Co.'s Syrs 1, sw 30-36-28, dr 2000 ft. Ergenbright, Beaupre 1, se 32-27-1w, mvg in. International Roy. Hold, Co., Henry 1, sw 26-35-3e, reaming, td 1900 ft.

VALLEY—T. J. Jones, nw 31-37n-38e, cem 620 ft.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH (Cartersville)—		
Airlift Oil Co. & Bahan & Bahan, Floyd Pleasant 1, 25-23-12	*	3215
E. W. Bateman, Bolinger 1, 38-23-11	*	3252
Louisiana Pet. Co., H. H. Bain 3, 31-23-11	*	3276
Magnolia Pet. Co., G. W. Roberson 1, 26-23-12	105	2950
DE SOTO PARISH (Holly)—		
Standard Oil Co. of La., Dowling Bros. 1, (formerly R. O. Ray, Whittaker A-1) 5-13-13	3500	2848
SABINE PARISH (Zwolle)—		
Ray-Dawes Drilling Co., Mansfield Hdw. Lbr. Co. 1, 36-8-13	*	2550
Bahan & Ryan, Messhell 1, 32-8-12	*	2570
Henshaw et al, Sabine Lbr. Co. A-1, 31-8-12	*	2525
Sabine Lbr. Co. B-1, 31-8-12	*	2640
Sabine Lbr. Co., Fee 1, 31-8-12	*	2610
Pelican Nat. Gas Co., Sabine Lbr. Co. 1, 1-7-12	*	2833
Ohio Oil Co., Bowman-Hicks 1, Acct 2, 6-7-13	*	2533
WEBSTER PARISH—		
Magnolia Pet. Co., Scroggins 3, 1-22-11	20	2707

BIENVILLE PARISH—Ark. Fuel Oil Co.'s (Cities Service) Ashley 1, 15-16-10, dk. W. A. Nichols' McDermott 1, 28-18-8w, sd 2130 ft.

BOSSIER PARISH — Ark. Fuel Oil Co.'s Barnett 1, 25-23-12, set 6⅝ cas 3135 ft, 750 ft oil in hole, 12 ft sand, wosr, td 3159 ft; Barnett A-2, set 6⅝ cas 3132 ft, sand 3145-52 ft, td 3152 ft; Barnett B-2, 26-23-12 set 6⅝ cas 3135 ft, 10 ft sand, td 3155 ft; Marks Meyer 1, 36-23-12, setting 4½-inch cas 3170 ft; Floyd 1, 25-23-12, wosr, td 3176 ft; Peyton 3, 30-23-11, TA 3285 ft; Peyton 4, 30-23-11, set 6⅝ cas 3131 ft, td 3161 ft; Kilgore A-4, 30-23-11, 190 ft oil in hole, wosr, td 3133 ft; Kilgore B-4, 31-23-11, wosr, td 3175 ft; Kilgore B-6, 31-23-11, wosr, td 3164 ft; Kilgore B-8, 31-23-11, dr 2528 ft; Kilgore B-9, 31-23-11, lcn; Ramsey 1, 31-23-11, wosr, td 3171 ft. Air Lift Oil Co.'s & Bahan & Bahan's Floyd Pleasant 1, 25-23-12, dry abn, td 3215 ft. Askew & Goodman's Roberson 1, show oil and gas, sd 3280 ft. Delaware La. Dev. Co.'s Bolinger 3, 38-23-11, old well arr deepen; Bolinger 6, 38-23-11, hfo 15 ft bro sand, td 3217 ft. National D&P Co.'s Matlock 1, 26-23-12, repr dk, td 2959 ft, (formerly Lide et al's test). Natural Gas Prod. Co.'s U. S. 3, 31-23-11, sp dr 100 ft; U. S. 4, 31-23-11, lcn. Greenwood Prod. Co.'s Bolinger 1, 36-23-12, sd wo 3290 ft. H. L. Hunt's Allen 1, 30-23-11, wo 3482 ft; Peyton 5, 25-23-12, lcn; Peyton 7, 25-23-12, lcn; Peyton 8, 25-23-12, rig up; Peyton 9, 25-23-12, wosr, td 3222 ft; Peyton 10, 25-23-12, wosr, td 3176 ft. Woodley et al's L. & A. 2, 14-23-12, fsh for bailer, td 3156 ft; Roberson 1, 22-23-12, surf cas collapsed wo td 1500 ft. Andrews & Devlin's Nattin 1, 15-22-14, sd 765 ft. Walker et al's Antrim 1, 28-21-13, sd 3184 ft. La. G&F Co.'s Crystal O&G Co. 1, 7-21-11, dr shale 2580 ft. C. H. French's Biedenharn 1, 23-21-14, set 6-inch cas 912 ft, 2 ft sand, tested sw wo, td 1042 ft. H. I. Morgan et al's eWatherbee 4, 21-18-11, tested dry thru ds 2082 ft, dr 2089 ft. Magnolia Pet. Co.'s Matlock 2, 25-23-12, set 8⅝-inch cas 3147 ft, wosr, td 3188 ft; Matlock 3, 25-23-12, tested dry 3077 ft, dr 3094 ft; G. W. Roberson 1, 26-23-12, set 5¾-inch cas 3137 ft, tested dry 3331 ft, plugged back to 2950 ft, shot formation, flowing 105 bbls daily, td 2950 ft. La. Pet. Co.'s H. H. Bain 3, 31-23-11, set 6-inch cas 3130 ft, dry abn, td 3276 ft. Texas Co.'s Peyton 1, 31-23-11, old well arr deepen, td 3070 ft; Peyton 2, 25-23-12, wosr, td 3140 ft; Peyton 5, 23-23-12, dk; Wilkinson 7, 36-23-12, set 6⅝ cas 3135 ft, 12 ft sand, rebldg pulled in dk, td 3158 ft; Wilkinson 8, 36-23-12, topped sand 3140 ft, coring 3141 ft; Henry Rose 1, 31-23-11, old well arr deepen. Olsen Bros. et al's Pine Woods Lbr. Co. 1, 25-23-12, lcn. Phillips Pet. Co.'s Bolinger 1, 38-23-11, lcn abn, will not drill. E. W. Bateman's Bolinger 1, 38-23-11, set 6⅝ cas 3080 ft, dry abn, td 3252 ft. Eylers O&G Co.'s Wise 1, 35-23-12, set 6-inch cas 3127 ft, 350 ft oil in hole, wosr, td 3203 ft. Ark. Fuel Oil Co.'s Wilkinson 1, 5-22-11, old well arr deepen, td 3068 ft.

CADDO PARISH—Triangle Drilling Co. Hardy 1, 18-19-16, set 8-inch cas 1726 ft, 8-inch 2090 ft, tested dry 2320 ft, sd high water,

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LUCEY

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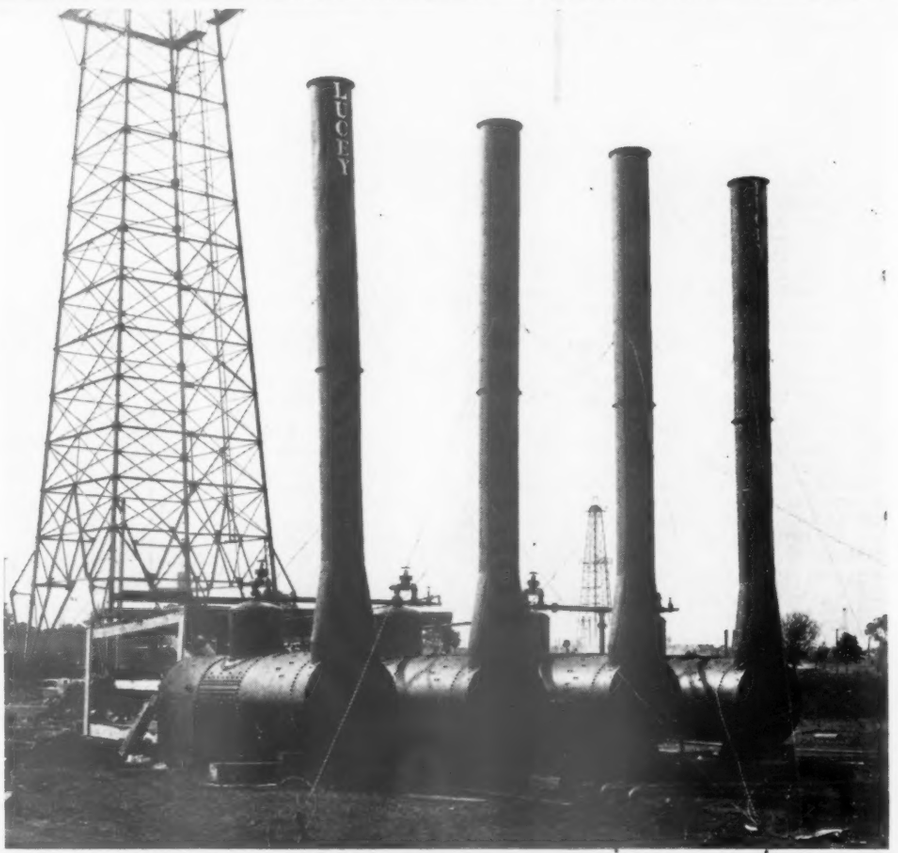

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2370 ft. C. W. Robinson's Wilson 1, 2-15-16, dr lime 3300 ft. I. N. Pharris' Oden 1, 18-19-14, sd wo 2409 ft. D. C. R. Oil Co.'s Oden 1, 18-19-14, sd high water 2620 ft. R. W. Norton's Hill 1, 33-23-16, dr 4880 ft. Magnolia Pet. Co.'s Swann & Davis 1, 16-21-14, set 6⅝ cas 1535 ft, dr shale 1890 ft. L. B. Mawk's Swann Bros. 1, 23-21-14, sd for fuel 700 ft.

CATAHOULA PARISH—National O. & G. Co.'s Kirkland 1, 35-9-6e, set 10-inch cas 163 ft.

CLAIBORNE PARISH — Triangle Drilling Co.'s Caskey 2, 6-19-5w, dr chalk 2350 ft. El Dorado Chief Oil Co.'s Simmons 1, 27-20-7w, sd in bldrs and shale 2240 ft. Leue Oil Co.'s Taylor 1, 16-22-6w, sd wo 2864 ft.

CONCORDIA PARISH—Joe Marr et al's Maxwell 1, 33-3-8e, dr 2820 ft. A. C. Glassell's Pittsfield Plantation 1, 41-8-10e, dr 1300 ft.

DE SOTO PARISH — Benson O&G Co.'s Harris 1, 6-10-13, set 6⅝ cas 3070 ft, sd wo 3650 ft. Standard Oil Co. of La.'s Farmer B-1, 8-13-13, dr 1650 ft; Lee 1, 33-14-13, topped Nacatosh 1235 ft, set 6⅝ cas 2732 ft, topped Woodbine 2829 ft, 19 ft sand tested sw show oil arr plug, td 2848 ft; R. A. Nelson 1, 36-15-13, rig up; Parker Bros. 1, 5-13-13, tested 5 mil ft gas thru ds 2720-2850 ft, set 6⅝ cas 2720 ft, arr drill in; Parker A-1, 5-13-13, dr 2575 ft; Dowling Bros. 1, (formerly Whittaker A-1) 5-13-13, set 6⅝ cas 2729 ft, 16 ft sand flowing thru 7/16-inch choke rate 984 bbls daily est daily yield 3500 bbls, td 2848 ft; McClanahan 1, 8-13-13, lcn; Brooks 1, 8-13-13, dk; Fuller & Canard 1, 6-13-13, lcn; McGee 1, 8-13-13, lcn; Tracy 2, 5-13-13, dk; Mattie Fuller 1, 5-13-13, dr 2112 ft; Farmer D-1, 32-14-13, dk; H. B. Sample 1, 7-13-13, sp set 10-inch cas 203 ft; Jesse Fuller 2, 6-13-13, sp dr 1140 ft; H. L. Hunt's Furman 1, 5-14-13, rig up. O'Dell & Lawton's Harris 1, 11-13-14, co to bottom wo, td 3140 ft. Ark. Fuel Oil Co.'s C. B. Scott 2, 32-14-13, rig up. Frank Melat, Inc.'s, Schryver 1, 35-14-13, topped Nacatosh 1187 ft, coring 1190 ft.

FRANKLIN PARISH — Evansville Inv. Co.'s Welsh 1, 2-14-8e, dr hard brown lime 4266 ft. Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—El Dorado Chief Oil Co.'s Southern Adv. Paper Co. 1, 35-15-4w, dk.

LINCOLN PARISH—Ark. Fuel Oil Co.'s Lewis & Co. 1, 26-20-4w, dk pat.

NATCHITOCHES PARISH — S. D. McDaniels' Clark-Morse 1, 23-5-6w, sd 2436 ft. Robeline O&G Co.'s Winn 1, 7-8-9w, sd in rock 1635 ft. W. M. Coats' Collins 1, 28-9-10, set 12½-inch cas 121 ft.

RAPIDES PARISH—Ayers Bros.' Wicklipp 1, 9-5n-2w, sd 2650 ft.

RED RIVER PARISH — W. D. Ball's Krumbholz 1, 32-14-10, set 6⅝ cas 1680 ft, sd wo 1701 ft.

RICHLAND PARISH — Austin & McDonald's Millsaps 2, 17-17-6e, sd 2697 ft; Millsaps 3, 16-17-6e, sd 2477 ft; Millsaps 4, 16-17-6e, lcn; Millsaps 5, 8-17-6e, dk; Hunt 1, 13-17-5e, dk. W. C. Feazel's Landrum 1, 6-16-7e, dk. International Gas Prod. Co.'s LaGrone 1, 7-16-7e, lcn.

SABINE PARISH—McDaniels et al's Batson 1, 16-8-12, arr set cas, td 2304 ft. Benedum & Trees (Loring Oil Co.'s) Bowman-Hicks 4, 34-8-12, set 6⅝ cas 2340 ft, dr in with cable base chalk 2825 ft, no Woodbine, dr lime 3684 tools 2345 ft; Bowman-Hicks 5, 34-8-12, hit ft. Bowman-Hicks 8, 18-7-13, dk. Bowman-Hicks 9, 34-8-12, set 6⅝ cas 2375 ft, bailing cas td 2405 ft. Peavy-Wilson 1, 21-6-13, dr 2184 ft. R. L. Gay, Tr.'s Bowman-Hicks 8, 18-7-13, dr black gummy shale 2097 ft. Sabine 4, 13-7-14, bailed dry 2501 ft, dr 2565 ft. A. H. Tarver et al's Sabine State Bank 2, 26-8-12, dr 1900 ft. Olsan Bros' Hooker 1, 27-8-12, topped chalk 2357 ft, set 6⅝ cas 2333 ft, flowing by heads wo gauge td 2625 ft. Ferguson 1, 33-8-12, cored marl and chalk rock showing oil wo cas td 2336 ft. Ohio Oil Co.'s Bowman-Hicks 3, 33-8-12, set 6⅝ cas 2400 ft dr 2800 ft. Bowman-Hicks 1, Acct. 2, 6-7-13, topped marl 2062 ft, set 6-in cas 2070 ft, bailed dry 2450 ft, sw abn td 2533 ft. Bowman-Hicks 5, 33-8-12, lcn. W. G. Gray's Nulton 1, 6-7-12, set 6⅝ cas 2197 ft, topped Blossom 2823 ft, set 4½ cas 3657 ft, tested dry in chalk 3665 ft, dr lime 3880 ft. Ruston Drilling Co.'s Bowman-Hicks 1, 4-7-12, ta 2640 ft. Bowman-Hicks 2, 35-8-12, wo 2690 ft. Bowman-Hicks B-1, 24-7-14, set 6⅝ cas 2073 ft, tested dry 2470 ft, arr deepen. Warner Quinlan Co.'s Sabine 2, 34-8-12, lcn. Stovall Drilling Co.'s Lefkovitz 1, 33-8-12, set 6⅝ cas 2328 ft, dr 2730 ft LeGrande et al's Giaque 1, 6-7-12, lcn. D. H. Reddick, Tr.'s Scretchfield 1, 16-9-12, sd wo 2590 ft. H. S. Autrey's Long-Bell Lbr. Co. 1, 35-8-14, set 8¼-inch cas 1804 ft, topped marl 1907 ft, dr 2439 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, sd 1650 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, dk. Pelican Nat. Gas Co.'s La. Long Lbr. Co. 1, 4-7-11, wosr td 2425 ft. La. Long Leaf 2, 20-7-12, sd 1990 ft. Sabine Lbr. Co. 1, 1-7-12, topped marl 2292 ft, set 6⅝ cas 2310 ft, sw abn td 2833 ft. Sabine Lbr. Co. 2, 12-7-12, dk. Ray-Dawes Drilling Co.'s Mansfield Hdw. Lbr. Co. 1, 36-8-13, set 6⅝ cas 2115 ft, dry abn td 2550 ft. Henshaw et al's Sabine Lbr. Co. A-1, 31-8-12, dry abn td 2525 ft. Sabine A-3, 31-8-12, lcn abn will not drill. Sabine B-1, 31-8-12, dry abn td 2640 ft. C. L. Jett, Tr.'s Jones 1, 31-8-12, set 6-in cas 2154 ft, flowing by heads wosr td 2210 ft. E. C. Simmons' Leach 1, 31-8-12, lcn. Anderson 1, 31-8-12, lcn. Dooley & Howard's Williams 1, 31-8-12, dk. Joe Burnham et al's Bolin 1, 31-8-12, ta 2436 ft. Bolin 2, 31-8-12, set 6⅝ cas 2150 ft, td 2153 ft. Glassell & Merren's Thomas 1, 31-8-12, set 6⅝ cas 2201 ft, wo 2610 ft. Sabine Lbr. Co.'s Fee 1, 31-8-12, set 6-in cas 2219 ft, dry abn td 2610 ft. W. S. Smith et al's Colquitt 1, 31-8-12, dk. Williams 1, 31-8-12, rig up. Henderson 1, 31-8-12, dk. Bahan & Ryan's Meshell 1, 32-8-12, dry abn td 2570 ft. J. R. Crawford's Meshell 1, 32-8-12, sd 1950 ft. Central Pet. Co.'s Baptist Church 1, 31-8-12, set 6⅝ cas 2159 ft, 200 ft oil hole, td 2350 ft. Philp Bros.' Dow 1, 31-8-12, dr 1822 ft. Longoria et al's Belton 1, 31-9-13, rig up. Dudley et al's Pearson 1, 31-8-12, set 6⅝ cas 2194 ft, 700 ft oil hole wo td 2676 ft. Allen & Thompson's Wall 1, 31-8-12, topped chalk 2294 ft, set 6⅝ cas 2159 ft, wo td 2350 ft. Gerke et al's Okerson 1, 31-8-12, dk. L. D. Allison's Holliday 1, 31-8-12 rigged up wo. McFann & Pace's Reeves 1, 31-8-12, set 6⅝ cas 2208 ft. W. D. Perritt's Crow 1, 30-8-12, set 6⅝ cas 2212 ft. L. Nagel's Corley 1, 31-8-12, set 6-in cas 2202 ft, tested dry show oil at 2204 ft and at 2461 ft sd wo td 2461 ft. Teteco Oil Corp.'s La. Long Leaf Lbr. Co. 1, 18-6-12, set 12½-in cas 173 ft. R. B. Whittle's Corley 1, 31-8-12, lcn. Central Pet. Co.'s McCormick 1, 31-8-12, rig up. San Miguel Oil Corp.'s Blankenship 1, 20-9-11, dk. Wheatcroft et al's Sabine Lbr. Co. 1, 31-8-12, sp dr 700 ft. F. M. Hood's Winston 2, 31-8-12, sp set 10-in cas 79 ft. H. E. Granville's Parrott 1, 31-8-12, sp set 10-inch cas 98 ft. Posey et al's Peterson 1, 31-8-12, rig up. Jones et al's Carson 1, dk, pat. Wilder et al's Parrott 1, 31-8-12, dk.

TENSAS PARISH—Willis et al's Curry 1, 39-11-12e, sd 1769 ft.

UNION PARISH—Fred Stovall's Stovall 1, 32-23-4e, lcn abn will not drill. Murray 1, 32-23-4e, rig up.

WEBSTER PARISH — J. J. Kean's Monzingo 1, 27-18-8e, bailed 8-in cas dry at 1698 ft coring 1715 ft. Pat Hudson's Gardner 1, 1-22-11, dk. Magnolia Pet. Co.'s Scroggins 3, 1-22-11, set 8¼-in cas 2669 ft, pumping 20 bbls oil 250 sw td 2707 ft. Mount Vernon O&G Co.'s Pardee 3, 3-22-11, set 6⅝ cas 2655 ft, 1400 ft oil hole 4 ft snd wosr td 2663 ft. Sarepta Oil Co.'s Slack 1, 36-23-11, rig up. Gardner 2, 1-22-11, rig up. Merrick Oil Corp.'s Slack 2, 36-23-11, dr 2660 ft. Reid Clark et al's Bolinger 1, 21-22-11, dr 1760 ft. E. W. Bateman's Cook 1, 2-22-11, lcn. Cook 2, 2-22-11, lcn. Ideal O&G Co.'s Coyle 1, 24-23-11, dk. K. C. Supply Co.'s Cochran 1, 36-23-11, rig up. J. S. Martin, Tr.'s Traylor 1, 36-23-11, sp set 10-in cas 168 ft. Magnolia Pet. Co.'s Goodson 1, 1-23-11, dk pat.

SOUTH LOUISIANA

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 8, Evangeline, dr 7208 ft hard sand and shale. The Texas Co.'s Rayne Heirs 5, Evangeline, fsh 8144 ft. Calcasieu Oil Co. et al's Hayes 1, 3 mi nw Iota, sd 6629 ft.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, Sec. 5-1n-3e, dr 2305 ft shale.

CALCASIEU PARISH—Shell's Heyd 1, 2 mi nw Iowa, dk.

CAMERON PARISH—Pure's Yount-Lee 9, Sweet Lake, dr 5250 ft lime. Vacuum's Cameron Meadows 1, e Johnson Bayou, washing over, stuck dr stem at 3800 ft. Calcasieu Oil Co.'s Caldwell 5, E. Hackberry, dr 6750 ft sand and lime.

IBERIA PARISH—The Texas Co.'s S[illegible] Vermilion Bay 5, working on foundation.

IBERVILLE PARISH—Shell's Wilbert [illegible] White Castle, oil sand at 5156-5175 ft, set 1 [illegible] screen with 2-in tubing to top, came in flowing 50 bbls pipe line oil per hour, 24.1 corrected gravity. Standard's Wilbert 5, Bayou Blue set cas at 70 ft; Wilbert 6, will set screen at 2065 ft; Cyrus Case 1, stuck dr pipe at 3196 ft.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, driving piling.

JEFFERSON DAVIS PARISH—Yount-Lee Oil Co.'s Geo. Courtney 1, Welsh, dr 3200 ft gbo; Abbott 1, Welsh, dr 3008 ft hard sand.

LA FOURCHE PARISH—The Texas Co.'s LLE-Leesville 1, dr 3540 ft gbo. Humble's Cockrell 2, Lake Grande Ecaille, lcn; Lake Washington 1, Lake Grande Ecaille, dr sandy shale, oil show at 5165 ft. The Texas Co.'s Garden Island Bay State 4, dr water sand 700 ft.

ST. LANDRY PARISH—The Texas Co.'s Botany Bay Fee 7, Port Barre, came in flowing 2000 bbls daily, 26 gravity oil at 3350 ft. Gulf's Hoskins 2A, Port Barre, sdtr 3375 ft, now in cap rock at 3829 ft; Lahaye 2, dr 20[illegible] ft. Hebert Baker Oil Co.'s Fisher 1, Sec. 1[illegible] 3s-4e, dr 4210 ft. Alex Rice, Tr.'s, S. W. Futral 1, Sec. 20-6s-5e, dr 1275 ft sand.

ST. MARTIN PARISH — Yount-Lee Oil Co.'s Hebert 2, Anse La Butte, lcn. Rycade's Woodyard Lake 1, Bayou Bouillon, ru. Pure's Wax Lake State 2, dr 2620 ft gbo.

ST. MARY PARISH — The Texas Co.'s South Coast Co. 1, Sec. 41-14s-10e, lcn.

ST. TAMMANY PARISH—Washington & St. Tammany Drlg. Co.'s Cousack 1, 8-6s-10e, dr 3527 ft gbo.

TERREBONNE PARISH—Freeport Sulphur Co.'s Nelson 1, 12-21s-12e, dr 3845 ft gbo. The Texas Co.'s LLE-Bay Junop 1, dr 3325 ft gbo; Caillou Island 3, lcn; Lake Pelto B-2, temp abn at 2160 ft; Bay St. Elaine State 4, sand with oil show at 5165-80 ft, cemt cas, woc; Lake Barre State 4, ru; Dog Lake State 2-A, dr 3758 ft hard sand.

WEST FELICIANA PARISH — Putnam Synd.'s Como Plantation 1, dr 3546 ft sandy shale.

TEXAS GULF COAST

AUSTIN COUNTY—J. T. O'Hara et al's Batla 1, Wm. Smithers sur, fsh 4000 ft. Black Oil Co.'s Lancashire 1, 3 mi s Sealy, dr 3400 ft shale. McInnery et al's Hattie McDade 1, w Kinney, sd 500 ft.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, sd 4080 ft. Shell's Blakely-Winston 1, 2 mi ne Danbury, tested salt water at 1667 ft after plugging back; No. 2, ru. Rycade & Amerada's Rapid City 1, 2 mi s Danbury, dr 4640 ft rock. Rucks & Patterson's Hunter 1, sw Hoskins Mound, sd 1180 ft. The Texas Co.'s O. F. Ewing 1, 1½ mi n Manvel, dr 5421 ft sticky shale. Mills Bennett's Randon 1, Allen Dome, dr 5167 ft sandy shale, oil show. United Oil Synd.'s Mores 1, 3 mi n Danbury, dr 550 ft gbo. Layne et al's Wisdom 6, Damon Mound, dr 1775 ft sandy rock.

CHAMBERS COUNTY—Pure's Mayes 11, Lost Lake, sd 2704 ft; Lost Lake 5 and Mayes 11, lcns. Pure's Kirby 1, Cove, dr 3340 ft sticky shale. Pure-Rycade's Jackson 1, 6 mi w High Island, dr 717 ft sand. Shell's Hertt 1, Moss Bluff, dr 5288 ft hard lime. Superior Oil Co.'s H. Jackson 1, 4 mi w High Island, sd 3504 ft. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sd 3810 ft.

FORT BEND COUNTY — Gulf's Brazos Valley Irrig. Co. 2, 3 mi sw Clodine, dr 4435 ft sand and shale. Gulf's Moore 21, Moore Field, set screen at 3995 ft, preparing to bail. Moore 22, dr 4050 ft shale and lime.

GRIMES COUNTY—Jno. Deering et al's Rossi 1, 3 mi n Singleton, dr 2425 ft shale.

HARDIN COUNTY—D. O. Speight's Gidry 1, 4 mi s Batson, dr 1225 ft gbo.

HARRIS COUNTY—Humble's Simms-Smith 77, Goose Creek, abn at 6642 ft in shale; Warren 7, Hockley, dr 5815 ft hard sandy shale. Minnetex 2, Mykawa, sd 1216 ft; Siadous 1, Mykawa, dr 5383 ft sandy shale and lime. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4247 ft. Martin, Drake & Jones' Haney 1, 3 mi e Elena, dr 5515 ft shale and lime. Sloan

Prod. Corp.'s Davis 1, 5 mi nw Barbers Hill ru. Cranfill-Reynolds Co.'s Rorick 1, 6 mi Cypress, dr 3119 ft shale. Strang Pet. Corp.'s Good 1, E. Brinson sur, Deer Park, washing to bottom, td 3240 ft.

JACKSON COUNTY — The Texas Co.'s Mitchell 1, 12 mi s Edna, dr 3057 ft shale and lime.

JEFFERSON COUNTY — Westbury Oil Co.'s West 1, S. Choate sur, dr 3490 ft gbo. Gulf's Burrell 5, Fannett, reaming 5410 ft. The Texas Co.-Houston Oil Co.'s Fitzhugh 1, Big Hill, td 5863 ft, sdtr 5144 ft. The Texas Co.'s Pipkin 3, Big Hill, ru.

LIBERTY COUNTY—Gulf's W. H. P. McFadden 1, Moss Bluff, dr 4500 ft. Humble's Sabine Tram 1, Devers, dr 2222 ft gbo. The Texas Co.-Paraffine Oil Co.'s Fee 1, N. Dayton, dr 5034 ft sandy shale, no show. Houtex Prod. Co.'s Brown-Tadlock 1, N. Dayton, dr 4910 ft lime rock, had blowout at 5340 ft, sdtr 4830 ft; Deering-Wilhite 1, N. Dayton, sand and shale with oil show at 4770-97 ft. Victor Oil Co.'s Gulf Fee 1, N. Dayton, dr 4800 ft sand and lime; Gulf Fee 2, preparing to set screen in sand and shale with oil show at 4768 ft. Gulf's Boyt 4, Hankamer, came in flowing 1300 bbls daily 22 gravity oil, 330 bbls pres. at 3810 ft; Boyt 6, dr 2281 ft gbo; Lee I. Hankamer, dr 3136 ft gbo. Tucker et al's Bell 1, Devers, dk. Cranfill-Reynolds Co.'s Esperson 5, Esperson Dome, dr 5188 ft gbo; Esperson 9, dr 4800 ft; Esperson 11, dr 1500 ft; Vajdak 1-A, Esperson, dr 6800 ft. Yount-Lee Oil Co.'s Moores Bluff Corp. 3, Esperson, dr 4910 ft sand and lime. Republic Prod. Co.'s Davis 1, Esperson, dr 1403 ft gbo and lime.

MATAGORDA COUNTY—Cockburn et al's Hawkins 1, Shepherds Mott, dr 5588 ft hard sand. Watts Oil Co.'s Titus 1, s Collegeport, ru.

MONTGOMERY COUNTY—Kelly Baker's Juergus 2, 3 mi Conroe, sd 1910 ft.

ORANGE COUNTY—Gulf's W. H. Stark 1, Port Neches, dr 2789 ft gbo. The Texas Co.'s Kuhn 2, Port Neches, dr 3243 ft sticky shale, no show; Stark 2, Port Neches, dr 3873 ft sticky shale, no show.

VICTORIA COUNTY — Humble's J. J. Welder 1, 3 mi se Nursery, dr 6475 ft.

WALKER COUNTY — Joyne Richardson's Smither 1, 12 mi n Huntsville, sd 3455 ft.

WALLER COUNTY — Kirby Pet. Co.'s Davis 2, San Felipe, dr 3125 ft sandy shale.

WASHINGTON COUNTY—W. B. Birdwell's Schram 1, 3 mi e Brenham, sd 2108 ft. Mid-Kansas O&G Co.'s Johnke 1, nw part county, dr 1875 ft shale.

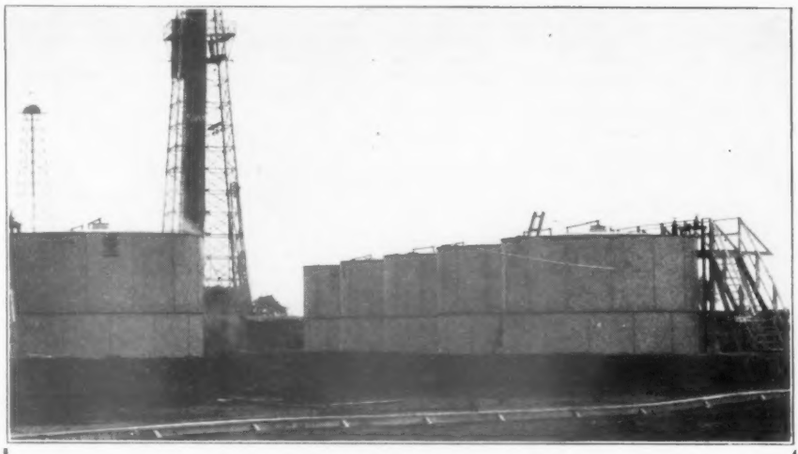
SOUTHWEST TEXAS

BEXAR COUNTY — Penn-Tex. Oil Co.'s Sandimeyer 1, Manchaca survey; 9 mi se San Antonio, set csg at 680 ft. Dingman Drilling Co.'s Cassin 1, (1800 ft se of No. 1 Kelso) dr 1270 ft. Moore and Jauer's Ellison 1, dr around 2200 ft. Swearingen Oil Co.'s Fee 3, dr. J. Morgan Russell's Mills 1, Angel Navarro sur, 10 mi s of San Antonio, near Palo Alto road, dr 210 ft in green sand, odor of oil. Henry Yelvington's (formerly Swift & Fisher) Beck 1, (10 mi e of San Antonio) dr 1470 ft.

BEE COUNTY—Humble's McKinney 3, (600 ft s of No. 2) dr 2565 ft; Mauldin 1, loc. Barnsdall's Courtney 1, loc, dr for water. Union Producing Co.'s Ray 9, (600 ft s of No. 8) dr 2515 ft; Ray 10, dk; Ray 11, dk. Houston Oil Co.'s Pettus 1, Town Center blk 36, sd 495 ft for cmt; Newman 1, loc. Ed. Price's Weiss 1, testing sand 2355 ft. Fisher & Wiggin's (Grayburg Oil Co) Kimball 1, csg set 3408 ft. Nichols et al's Hicks 2, (300 ft se of No. 1) sd for cmt at 3612 ft; Hicks 3, (500 ft in s line, 500 ft dw line, blk 19, 350 ft se of Hicks 2), gassing 20,000,000 cubic ft at 3619-29 ft. Cowden Oil Co.'s R. A. McKinney 1, (John Buce sur) bailing at 3668 ft. Rowan & Tongs's Freeman 1, testing 4298 ft; F. O. Massengale 1, dr 3733 ft. Trinity Drillers 1, (just west of Pettus) dr water well.

BROOKS COUNTY—Ed. East's Garcia 1, (Lasater pool) loc. Humble's Singer 2, (sec 123) dr 1500 ft. Houston Oil Co.'s Holbein-Wormser 1, whipstocking at 3650 ft for gasser; Lasater 1, cleaning out; Holbein-Wormser 2, (Survey part of Palo Blanco de Maguellas grant) loc. Midwest Public Utilities' Garcai 1, dr.

CALDWELL COUNTY—Buchanan-Dancigers No. W. T. Cude 2, Wm. Spillers, dr 1150 ft. Gulf's T. Briscoe 2, prod 480 bbls. Bill Hin-



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Write for Illustrated Folder

TEXAS IRON WORKS

1401-1423 MAURY STREET
Houston, Texas

ton's Perry 1, loc. M. T. Keen et al's McNeal 1, dr 2430 ft. Ed Lange's Geoffery 1,, dr 1100 ft. R. C. McIntyre's J. S. Towns 1, dr 2623 ft. S. A. Petroleum Co.'s Wachenaghen 1, dr 1410 ft.

DE WITT COUNTY—Roe et al's Reinhardt 1, dr 2324 ft. Republic Prod. Co.'s T. E. Clark 1, (4 mi s of Yorktown) dr 4080 ft. Louisiana Oil Ref. Co.'s Klaevemann 1, (400 ft s of n line, 400 ft w of e line of 101 acre tract in R. Galletty league) dr 2380 ft.

DUVAL COUNTY—Bain & Shaw's Benavides 1, (sec 175) dr 2600 ft. Cole Pet. Co.'s Benavides 69, (sec 20, Cole sub) dk. National Oil Co.'s Ball Ranch 2, deep test, sd 4048 ft. Cooperative Drilling Co.'s (Cole Field, sec 254) (Dinn ranch) well contracted. Humble's Koehler 44, (sec 424) dr; Koehler 45, set csg at 1745 ft to test. Magnolia's Lundell 1, dr 2780 ft. W. E. May's R. Benavides 1, (Carpenter lease) dr 850 ft; Hahl-Strip 1 (sur 61) flowing 100 bbls at 2341 ft. Simms Oil Co.'s Dinn 9, dr. Southern Oil Co.'s Welder Woods 1, Sec. 215, dr 2250 ft. Southern Crude Oil Purchasing Co.'s Dunn 1, (Sec 480) dr 3790 ft.

FAYETTE COUNTY—Mouldon Oil Co.'s Kerr 1, fsh for dr stem at 3506 ft. Kelly et al's Mirke 1, dr 488 ft. Moore et al's Kerr 1, dr 2485 ft. Hoffer-Stanton's M. E. Manton 1, (W. H. Taylor sur) loc.

GONZALES COUNTY — Antibus & Cummin's Martin 1, (8 mi from Gonzales) sd 2020 ft. Keiffer et al's B. B. Dix 1, total depth 2850 ft, sd, dr stem in hole. Lake & Thompson's Campbell 1, (in Saturn area) mv on. Mardon Oil Co.'s (Finnell & Elam) Robinson 2, dr 2285 ft; Borer 1, dr 1800 ft.

GOLIAD COUNTY — Humble's Lackey & Weldon 1, elevation 380 ft, testing at 4235 ft. Morgan Zock et al's Perrie 1, blk 14, V. Ramos sur) dr 3475 ft.

GUADALUPE COUNTY—Cranfill Reynolds' Appling 2, swabbing at 2480 ft. Hadley et al's Hartwig 1, (R. Nixon sur, 6 mi sw of Darst Creek, comp water line. W. H. Sees' Denman 1, (2684 ft e of w line and 3850 ft n of s line as Ammet sur) loc. Grayburg Oil Co.'s Wells 2, (1425 ft se of 1) prep to sp in. Morgan Lewis et al's Link 1, (7 mi nw Seguin) dr 800 ft. Mid-Kansas O&G Co.'s J. J. Waldrop 2, (about 1000 ft se of No. 1) dk. Magnolia's A. A. J. Manford 1, (2 mi w of Penn pool) sd; Klein 2, set csg around 2650 ft; Appling 2, being completed. Palo-Alto Oil Co.'s Denman 1, dk. Penn-Tex. Oil Co.'s Roamel 1, J. Robinson sur. (1300 ft w of Roamel gusher) sp in. Sun Oil Co.'s J. O. Manford 2, (direct e offset to No. 1,) fsh at 2903 ft. J. S. Suttle's Baenzieger 1, dr 2128 ft. Tidal Oil Co.'s Seligman 1, (N. J. Williamson sur) prod 2000 bbls. at 2510 ft. Transcontinental Oil Co.'s Tollie 1, E. Gotarie sur, (5 mi se from Seguin) sp in.

KARNES COUNTY—Freeman et al's Wilburn 1, dr. Hewitt et al's H. M. Matula 1, dr 5660 ft. Hurador Oil Co.'s W. E. Porter 1, dr 4136 ft; Jeff Porter 1, ru. Mundine Investment Co.'s A. D. Wilburn 1, (Hardy sur., 3 mi se Dunge) loc. Mach et al's Love 1, sp in.

KENDALL COUNTY—Sitton's Garvin 1, dr 475 ft. Borget et al's Willie Haag 1, set csg 750 ft. Dixon et al's Behr 1, (3 mi se Sisterdale) dr at 1500 ft. Molwinkle et al's Kaston 1, sp in. Dickson & Morrison's Edmondson 1, dr 120 ft. Seaboard Oil Co.'s Askey 1, (3 mi n Sisterdale) sd. F. B. Stearling's W. Weiner 1, (J. C. Tarry sur, 8 mi w from Kendalia) building storage; McCracklin 1, (B. S. Owen sur) to mv on heavy rig. Sinton Oil Co.'s Garvin 1, set csg 450 ft. Perkins et al's Lawhon 1, mv on.

KERR COUNTY—Mashe & Tunstill's Loveranch 1, ru.

KINNEY COUNTY—Blume et al's Herbst 2, dr 1100 ft. Magnolia's Wardlow 1, (Blaez sur) dr 590 ft.

LAVACA COUNTY—McElreath & Suggest's Heinsahn 1, sd.

LIVE OAK COUNTY—Houston Oil Co.'s Booth 1, dr 2750 ft; Cartwright 22, loc. Dougherty et al's Fee 1, (2254 ft nw line; 750 ft sw line, M. Borden sur) dr 1800 ft; Jim Dougherty 1, (M. Borden sur) sp in.

MAVERICK COUNTY — Rycade Oil Co.'s Chittim 5, reaming 3450 ft; Sullivan 5, dr 4449 ft.

MEDINA COUNTY — Sun Oil Co.'s Wm. Edgar 1, dr 200 ft. Donaldson Oil Co.'s Adams 2, dr 100 ft. Miller & Perkins' Taylor 1, dr 500 ft. Natl Oil Co.'s Howard 1, sp in. Pearson Oil Co.'s Irrigation Farms 6, dk; Whitesides 1, loc. Pat. Armstrong's Crawford 1, dr 450 ft; Butts 1, dr TNT Drilling Co.'s Haas 1, dr 1600 ft. C. Regan's Haas 1, (J. Burleson sur 64 12 mi from Noonan) testing 932 ft. Pan American Pet. Co.'s Hart 1, dr 1140 ft. R. M. Perkins' R. J. Taylor 1, (Castro 136, 3½ mi sw of Hondo) sp in. Sunflower Oil Corp.'s Modfield 1, (1335 ft n of s line, 2240 ft w of e line, Sec 532 J. Brothax sur, 10 mi s of Hondo) ru.

SAN PATRICIO COUNTY—Geo. Pickett's J. C. Baldwin 1, (E. Sinton) sd 2410 ft. La-Feria O&G Co.'s C. C. Smith 1, dr 3030 ft.

STARR COUNTY—J. L. Smith's Welsh 1, Pedernal ru rotary rig at 841 ft. Daniels & Hill's (Smith-Adams) Welch 1, mv on prep to resume dr. Texas Co.'s Guerra 1-B, dr 3620 ft.

UVALDE COUNTY — Welch et al's Edmonds 1, (sw Uvalde) sd 1000 ft; Bonson 1, (nw Uvalde) dr 1350 ft. Phantom Oil Co.'s Caludt 1, (New Mantell) dr 1876 ft.

VAL VERDE COUNTY—Phantom Oil Co.'s Ingram 1, fsh 3050 ft. Lion Oil Co.'s McFadden 1, dr 1460 ft. Atte Dr. Co.'s West 1, ru

VICTORIA COUNTY — Line Oil & Ref. Co.'s I. A. McFadden 1, dr 1603 ft in gumbo.

WILLIAMSON COUNTY—Harlem et al's H. H. Stiles 1, ru. Fred Beatty's J. B. Pumphrey 1, ru; H. Bland 1, sd. M. Bartlett et al's R. E. Thomas 1, sp in. E. L. Chapman's J. H. McConnell 2, ru; Fuchs 2, dr. G. B. Peterman's J. C. Abbott 2, ru. Elliott et al's S. W. Jones 1, sp in. Birdwell et al's H. L. Martin 1, ru. McNeil et al's R. L. Abbott 1, sp in. Powell & Kykendall's Christian Mager 1, old well deepening. E. R. Ertell's I. F. McConnell 1, small oil show at 1100 ft. Keeshan et al's R. L. Abbott 1, dk. E. W. Marts et al's R. L. Abbott 1, sp in. Taylor Temple Oil Co.'s F. M. Cain 1, ru rotary. J. A. Thompson's T. H. Martin 1, lc. Westheimer & Daube's R. L. Abbott 1, loc. R. R. Wilder's H. T. Martin 1, ru rotary. L. W. Wilson et al's W. L. Lawrence 1, sp in.

WEBB COUNTY — Magnolia's Benavides 2-A, loc; Benavides 4-C, loc. Claggett & Evans' Webster 1, dr 800 ft. Houston Oil Co.'s Benavides 2-D, dr; Rosa Benavides 1-A, no report; Rosa Benavides 2-A, loc. French Oil Co.'s Rosa Benavides 1, standing 1000 ft oil in hole irg up with standard tools; Rosa Benavides 2-A, ru O. W. Killam's Bruni 18, Sec. 9, plugging back to 2400 ft gas sand; Bruni 12, blk 22, Albercas grant dr 3100 ft; Billings 8, (Billings Ranch) loc; V. Bruni, blk 22 Albercas, dr 3330 ft. W. E. May Benavides 1, Sec 22, dr 800 ft. South Texas Prod. Co.'s S. Benavides 1, (Fansler lease) coring at 2905 ft.

ZAPATA COUNTY — National Oil Co.,'s Adams 1, sd 690 ft. Alamo Drilling & Leasing Co.'s Trevino 3, dk. Chas Alworth (sec 149) (s of gasser in sec 285) loc; Garza 1, (sec 3) 600 ft of oil, csg set 1218 ft. Blankenship et al's Garza 2, dr; Montemayor 2, 500 ft of oil in hole, csg set 1303 ft; pump being installed. Alamo Drilling & Leasing Co.'s Trevino 3,, loc; Trevino 1, loc; Trevino 2, ru. W. R. Duke's Martinez 2, plugged at 975 ft. Humble's Soldadito 1, (24 mi s Zapata) drilled plugs at 3400 ft, now dr below 3400 ft in rock. O. W. Killam's Cuellar 23, dr 1750 ft; Cuellar 17-B, loc; Cuellar 18-B, loc; Cuellar 25, dr 1447 ft. Magnolia's Cuellar 3, sec 245, dr 4442 ft. Livingston & Twiss's Trevino 1, blk 7, sec 66, prod 70 bbls at 1270 ft. Nordan & Morris (Muckelroy field, blk 6, sec 65) loc. Muckelry et al's Trevino 3, dr. Midwest Utilties' Garcia 1, in Pedernal grant dr 1350 ft. B. F. Nixon's Guittierrez 1, blk 8, lot 5, ru. Shankle's Cuellar 1, sec 65 of Escobas field prod 150 bbls at 1260 ft. Trinity Drillers' Cuellar 1, sec 65, dk. Montemayor 1, loc. Trevino 1, sec. 66, prod 150 bbls 1260 ft. Trevino 2, prep to sp in. Wicker et al's Garza 1, dr 1000 ft. Penny Prod. Co.'s Trevino 1, blk 6, sec 4, in Marts and Beavans sur, sp in.

ZAVALLA COUNTY — Anglin O&G Co.'s Pryor 4, (11 mi sw Uvalde) dr 450 ft. Jack Baldwin's J. R. Price 1, (W. E. Erskin sur,) dr 1180 ft; Washer 1, (W. E. Erskin sur) dr 1204 ft. Gribbs & Davidson's Weathersby 1, dr 780 ft. Carl G. Cromwell's Whitecotton 1, (nw corner of ranch) dk. Copps et al's Pride 1, dr 1800 ft. Southern Crude Oil Co.'s Washer 1, dr below 4277 ft. Wiegand Bros.'s Gates 1, (near Loma Vista) sd at 2285 ft. Texas Gas Fuel Co.'s West 7, dr 200 ft. Thomas T. Taylor's Townsite 1, of Delmonte loc.

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
IRION COUNTY—		
Carl G. Cromwell, Nutt 2	125	1451

ANDREWS COUNTY—Deep Rock Oil Co. et al's A. R. King 1, elev 3206 ft, top salt 1698 ft. pul big pipe with hfo at 4335-4380 ft; R. L. King 1, elev 3196 ft, top salt 1700 ft, cem cas with show oil 4270 ft; W. J. Mathis 1, elev 3193 ft, top salt 1730 ft, sd 4190 ft. Fuhrman Pet. Corp.'s Ford 1, elev 3186 ft, dr 2180 ft. Humble O&R Co. & Penn Oil Co.'s Wilson 1, ur 1120 ft. Maer & Staniforth's Meadors 2, lcn.

BREWSTER COUNTY—E. L. Chapman et al's Skinner 2, elev 4240 ft, sd 1280 ft. Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, set cas 2340 ft.

COCHRAN COUNTY—R. A. Westbrook & Co.'s Slaughter 1, elev 3793 ft, top salt 2347 ft, top lime 3837 ft, dr 5470 ft.

COKE COUNTY—Arkansas Fuel Oil Co. & Dixie Oil Co.'s Stepp 1, dr 2120 ft. Lipan Oil Co. & Vernon O&G Co.'s Lackey-Rawlings 1, co 3275 ft.

CONCHO COUNTY—Beasley et al's Sam Waring 1, machine. A. W. Turner et al's Brosig 1, sd 780 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. & Gulf's Tubbs 1, elev 2526 ft, top salt 505 ft, top white lime 2445 ft, dr 2750 ft. Duffey et al's Cowden 1, (Sec. 31), dr 520 ft.

CROCKETT COUNTY—W. E. Dolman & E. H. Moore's Perner 1, rig. Magnolia Pet. Co.'s Hoover 1, elev 2412 ft, top salt 600 ft, top lime 1890 ft, sd repairs 3900 ft. Trans-Texas Oil Co.'s Shannon 2, elev 2647 ft, top salt 1095 ft, co with hfo 2534-35 ft. Gordon Schaul et al's Barnscrew 1, machine.

CULBERSON COUNTY — Grisham-Hunter Corp.'s Garren 1, sd hfw 2514 ft. Hickey et al's Finley 1, sd hfw 2907 ft. W. L. Kornrumpf et al's Garren 1, sd 240 ft.

ECTOR COUNTY—C. P. Davis et al's Hendrick 1, elev 2878 ft, top salt 1640 ft, dr 3210 ft. Penn Oil Co. & Devonian Oil Co.'s Goodman 1, rig. Southern Crude Oil Purchasing Co.'s Cowden 1, rig. TP Coal & Oil Co.'s McKenzie 1, elev 2933 ft, top salt 1009 ft, top lime 3265 ft, swabbing little oil after shot, td 3870 ft. Tidal Oil Co. & Independent O&G Co.'s Scharbauer-Edison 1, elev 2929 ft, top salt 1020 ft, top lime 3150 ft, fsh tools with some oil in hole after shot, td 3800 ft. H. F. Wurtz & C. H. C. Anderson's E. A. Ibbetson 1, dr 150 ft.

EDWARDS COUNTY — Phillips Pet. Co.'s Holman 2, dr 3560 ft.

EL PASO COUNTY—Layne-Texas Co.'s W. D. Malone 1-A, sd 1725 ft.

FISHER COUNTY—Cranfill-Reynolds Co.'s Barrett 2, rig; Flannigan 2, rig; Willingham 2, testing oil show 3075-78 ft. Midwest Explo. Co.'s Decker 1, lcn. Roeser-Pendleton, Inc.'s Steele 1, rig. Texas Co.'s Teagarden 1, rig.

GAINES COUNTY—Humble O&R Co.'s Carswell 1, ur 1295 ft.

GARZA COUNTY — H. C. Cate & Mel Richard's Stoker 1-A, sp and sd.

GLASSCOCK COUNTY — California Co.'s Jones 1, dr 2185 ft; Baker 2, rig. FHE Oil Co.'s Sprinkle 1, dr 1410 ft. Ed. Timberlake, Snyder et al's Meek 1, elev 2575 ft, top lime 2670 ft, testing oil prod 2077-80 ft. World Oil Co.'s Edwards 1, elev 2538 ft, set cas 750 ft.

TOM GREEN COUNTY—Phillips Pet. Co., Sun Oil Co. et al's Jennings-Gulden 1, dr 2500 ft.

HOWARD COUNTY—Meriwether Oil Co.'s Smith 1, elev 2590 ft, sd 2540 ft. Owen-Sloan Oil Co. et al's Flowers 1, ur cas 2517 ft. Sinclair O&G Co.'s Montgomery 1, dr 2110 ft.

HUDSPETH COUNTY — California Co.'s University 1, elev 5109 ft, dr hard sand 4650 ft.

IRION COUNTY—Carl Cromwell et al's Nutt 3, machine. Fox & Thorsen's Tankersley 3, dr 1010 ft. Kingwood Oil Co.'s Sugg 1, sd 7818 ft. Straughn & Texannati Oil Co.'s Nutt 1, sd 655 ft; Nutt 2, dr 365 ft. P. H. Williams' Ashe 1, sd hot water 8900 ft.

JONES COUNTY — Mid-Tex. O&G Co.'s King 1, sd 1976 ft. Phillips Pet. Co.'s Tech 1, dr 2015 ft.

LOVING COUNTY—California Co.'s Reagan-McIlvain 1, elev 2725 ft, top salt 700 ft, coring 4235 ft. Dixie Oil Co. & Phillips Pet. Co.'s Johnson 1, cem cas 990 ft. A. P. Eppenauer-Young et al's Allen 1, lcn. Hancock

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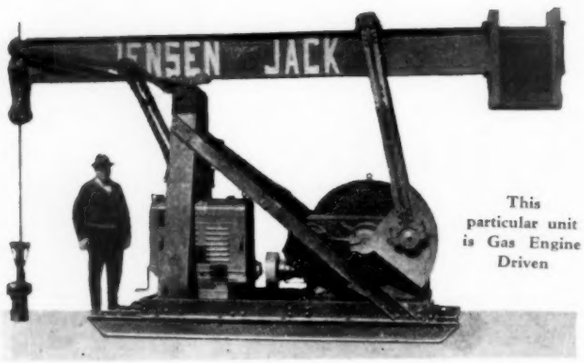

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SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

et al's Russell 2-A, rig. L. E. Lockhart et al's Wheat-Ramsey 1, elev 2689 ft, top salt 725 ft, top Deleware 4205 ft, testing production 4807-15 ft. Lockhart & Co.'s Bowen-Wells 3, elev 2719 ft, top salt 763 ft, sd 3385 ft; Hubbard 6, rig; Lepp 2, spd and sd. Miller-Burge-Healey's Chapman 1, rig. Joe Rush et al's Jim Wheat 1, rig.

MENARD COUNTY—Panhandle Ref. Co. & Jas. Duffy's G. P. Eckhardt 2, sp. L. G. Priest et al's Sorrells 1, dr 2020 ft.

MIDLAND COUNTY—Pure Oil Co.'s J. E. Hutt 1-A, top salt 1750 ft, dr 2684 ft.

PECOS COUNTY — California Co.'s Iowa-Jasper 1, elev 2433 ft, top salt 1205 ft, sd making gas and spray oil 1620 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, sd 2200 ft. Cromwell-Tanner & Ellis' University 1, elev 2485 ft, top salt 955 ft, set cas 1985 ft. Crosby Prod. & Roy. Co.'s Cordova 1, elev 2320 ft, top salt 725 ft, sd 2080 ft. Fisher & Lowrie's Webb 1, cased off water 1725 ft. Humble O&R Co.'s H. L. Kokernot 1, dr 380 ft. Hussman Oil Co.'s Estes 1, show oil 1500-65 ft ,sd 1680 ft. Independent O&G Co. & Buell-Hagan's Jasper 1, sd making 7 million ft gas and 8 bbls oil 1518-85 ft; Jasper 2, machine. C. S. Messinger et al's Byrne 1, flowing 30 bbls 1298-1327 ft; Byrne 2, spd and sd. Mauch & Krogen's Holmes 1, dr 2430 ft. J. R. Miller et al's Bennett 1, dr 185 ft. J. D. O'Mara et al's Bennett 1, fsh tools with oil in hole 1089-1160 ft. Oregon Oil Corp.'s Yates 2, machine. Perren et al's Eaton 2, sd 1075 ft. R. W. Porpus et al's State 1, sp and sd. Riser & White's W. D. Riser 1, lcn. Sides & Cloyd's Blackstone-Slaughter 1, top salt 860 ft, dr 2070 ft. Southern Crude's Eaton 2, machine. Texas Co.'s Wright 1, top salt 1940 ft, d. 3085 ft. Transcontinental Oil Co. & Arkansas Fuel Oil Co.'s White-Baker 3, pb from water at 1998 to 1923 ft and shot 10 qts at 1900-15 ft and flowed 15 bbls oil first 12 hrs; M. Sellman 1-A, swab 20 bbls oil 1881-1901 ft. W. F. Walsh et al's Henderson 1, elev 3325 ft, fsh 1640 ft. Walsh-Sturm & Keller's Shearer 1, machine. Monte Warner et al's R. D. Webb 1, lcn.

REAGAN COUNTY—Big Lake Oil Co.'s University 179, dr 2930 ft; University 1-C, fsh drill stem and core bbl, td 8658 ft; University 2-C, flow 504 bbls oil and 12,048,000 ft gas, td 8232 ft; University 3-C, flow 90 bbls oil and 2,218,000 ft gas, td 8576 ft; Univervsity 4-C, flow oil 10 bbls oil and 4,985,000 ft gas, td 8220 ft; University 5-C, dk. Group One Oil Corp. (Conoco's) University 2-B, flowing 1536 bbls 58 gravity oil and 32½ million ft gas 8482-89 ft; University 3-B, dr 8208 ft. Kemrow Co.'s Sawyer 1, sd 385 ft. Westyde Inv. Co.'s J. H. Scott 1, lcn.

REEVES COUNTY—California Co.'s Kloh 1, dr 935 ft. Slack & Fink's Brooks-Huling 1, elev 3116 ft, sd showing oil and gas, td 1860 ft.

RUNNELS COUNTY — Boyce & Lamar's Lange 1, elev 1844 ft, sd 2504 ft. Gibson-Johnson & Magnolia Pet. Co.'s D. O. Johnson 1, sd 2415 ft.

SCHLEICHER COUNTY—Delmar Oil Co.'s O'Harrow 1, ur 3330 ft. Phillips Pet. Co.'s J. A. Whitten 1, elev 2333 ft, testing gas flow at 6303-10 ft. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, dr 4785 ft. Paul Teas & Walter Gant's Allison 1, dr 1410 ft. J. D. Wesner et al's Ratliff 1, lcn.

SCURRY COUNTY—J. G. Armand & Camp Springs O&R Co.'s Quinn 1-A, elev 2316 ft, dr 4270 ft. Byrd & Harmon's Murphy 1, dr 2615 ft. Pender O&G Co.'s Davis 1, show gas 4365-70 ft, fsh tools 4400 ft. Transcontinental & Vacuum Oil Co.'s Peckham 1, elev 2155 ft, ur 1055 ft.

TAYLOR COUNTY—W. G. Clark & Humble O&R Co.'s Kendall 1, sp and sd. Condor Pet. Co.'s Stoker 1, ur cas 2795 ft. Eastland Oil Co. & J. R. Dunigan's Teaff 1, rig. A. H. Gibson et al's Cody 1, testing prod. after shot, td 2467 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, sd for cas 5927 ft. H. B. Herring-Hucony Gas Co. et al's Richie 1, fsh 1035 ft. Owen-Sloan Oil Co. & Gibson-Johnson's Bingham 1, ur 2412 ft. Mid-Continent Pet. Corp.'s Lindsey 1, dr 2420 ft.

TERRELL COUNTY—Big Bend Oil Corp. & F. A. Book's Bassett 1, elev 2396 ft, dr 192- ft. Transcontinental Oil Co.'s Good 1, elev 2405 ft, dr 3815 ft.

TERRY COUNTY — Penn Oil Co. Unit

Flan's P. Carlisle 1, elev 3275 ft, top salt 2260 ft, sd 3322 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, sd 5757 ft. Phantom Oil Co.'s Ingram 1, fsh 3035 ft.

WARD COUNTY—C. C. Dearborn & Otto Kirkham's Boogher 1, top salt 840 ft, dr 2175 ft. Gulf Prod. Co.'s Hutchings 4, dr 1175 ft; O'Brien 8, flow 135 bbls oil 2592-2650 ft; O'Brien 9, top salt 1205 ft, cem cas 1515 ft. R. F. Owen et al's Johnson 1, sd 380 ft. Sid Richardson-Kelsey & Magnolia's O'Brien 2, top salt 1150 ft, flowing 280 bbls oil 2550-2756 ft. Shipley Oil Corp.'s Monroe 1-A, dr 690 ft. J. E. Smith et al's Clements 1, top salt 745 ft, dr 1650 ft. Sturm & Paine's Cummins 1, elev 2443 ft, top salt 780 ft, hfo 235 0ft. Sun Oil Co.'s Sealy 1, elev 2680 ft, sd 2590 ft. Tex-Oil Production Co. et al's Redman 1-A, elev 2717 ft, top salt 1290 to 4133 ft, top Deleware 5037 ft, sd with 1500 ft oil and water in hole after shot 140 qts at 5047-77 ft.

WINKLER COUNTY — Champion-Winkler Oil Corp.'s Campbell 1, showing oil and gas, dr 3755 ft. Simms Oil Co. et al's Geo. Sealy 1, rig.

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
SMITH COUNTY—		
Daniels-Adair & Slick, A. J. Poirier 1	*	3557
VAN ZANDT COUNTY—		
Cranfill-Reynolds Co., C. M. Alexander 1	*	3490

ANDERSON COUNTY—Humble O&R Co.'s J. C. Collier 1, John Little sur, top Pecan chalk 3110 ft, dr 3225 ft. Sun Oil Co.'s Bowers-Maier 2, E. G. Meyers sur, sp and sd. Sun-Humble & Navarro Oil Co.'s A. Gardner 1, N. Salisar sur, elev 406 ft, dr 1375 ft.

CAMP COUNTY—J. C. Rogers & Southern Pet. Explo. Co.'s L. Enfelt 1, R. M. Montgomery sur, elev 410 ft, Pecan chalk 2490 ft, temp abn 3045 ft.

DELTA COUNTY — Geo. Kean & J. B. Evans' C. Smith 1, J. B. Anderson sur, elev 506 ft, dr 2245 ft.

ELLIS COUNTY—G. C. Foster & C. C. Richardson's Moise-Cerf 1, LaPena sur, elev 440 ft, Austin chalk 531 to 814 ft, co 2045 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, dr 2960 ft.

FRANKLIN COUNTY — Harper & Byers' A. J. Laws 1, D. G. Rogers sur, rig.

FREESTONE COUNTY—O. W. Killam et al's R. H. Edwards 1, A. Sanchez sur, elev 402 ft, dr 3115 ft.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron Yorkk sur, elev 397 ft, sd 2235 ft. E. L. Chapman et al's Cade 1, Simon Weiss sur, elev 340 ft, sd 3100 ft. Cranfill & Germany, Inc.'s, C. C. Starr 1, G. Acosta sur, lcn. Shell Pet. Corp.'s S. T. Stephens 1, I. D. Owen sur, elev 510 ft, Pecan chalk 2050 to 2129 ft., Austin chalk 2916 to 3115 ft, top Woodbine 3164 ft, top Georgetown lime 3600 ft, dr lime 3886 ft. Geo. L. Pace et al's S. Anthony 1, J. M. Bertram sur, dk.

HOPKINS COUNTY—Lew Wentz & Atlantic & Penn Oil Co.'s S. M. Milholland 1, J. H. Simpson sur, elev 525 ft, top Woodbine sand 3247 ft, sd 3550 ft.

KAUFFMAN COUNTY—Roy H. Sowell et al's A. H. Ables 1, E. Ables sur, sd 482 ft.

LAMAR COUNTY—B. L. Laubenheim et al's Johnson 1, Wm. Driggers sur, elev 667 ft, fsh 3090 ft.

LIMESTONE COUNTY—Haley - Heeman's Wilkes 1, J. B. Breeding sur, elev 421 ft, sd 3075 ft.

MORRIS COUNTY—Geo. McCamey et al's P. M. Staggers 1, G. Forbes sur, sp and sd.

NAVARRO COUNTY—Tidal Oil Co. & Atlantic Oil Prod. Co.'s T. Longbotham 1, Turner Smith sur, rig.

RAINS COUNTY—D. H. Byrd & Owen-Swan Oil Co.'s J. D. Hill 1, F. McMahan sur, elev 425 ft,top Pecan chalk 2348 ft, dr 2410 ft. Everett & Morrison's J. Franklin 1, John Christian sur, dk.

RED RIVER COUNTY—E. L. Chapman et al, Morris-Guest 1, S. Lakin sur, sd 800 ft.

RUSK COUNTY—E. M. Joiner et al's Bradford 3, elev 390 ft. Pecan chalk 2590 to 2774 ft, sd 3160 ft.

SMITH COUNTY—E. L. Chapman & Sut-

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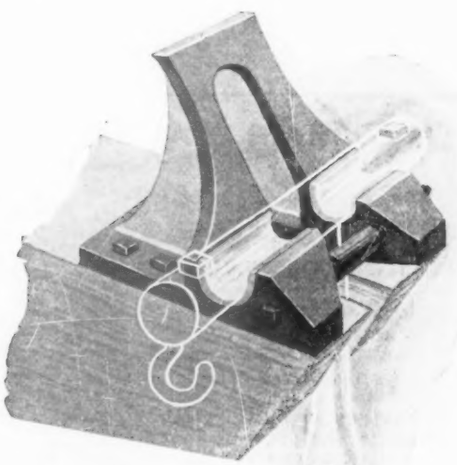

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OKMULGEE - OKLAHOMA

ton's J. M. Hammon 1, Jas. Reid sur, elev 380 ft, Pecan chalk 2680 to 2912 ft, sd 3700 ft. Owen-Sloan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, sd 1353 ft. Winona Oil Co.'s Morgan Freeman 1, A. J. LaGrone sur, sp and sd.

TITUS COUNTY—Deep Rock Oil Co. et al's First Nat. Bank 1, H. W. Cobb sur, dk. Wainwright-West Oils, Ltd., et al's Walcott-Lott 1, D. M. Smith sur, elev 280 ft, Pecan chalk 2627 to 3178 ft, sd 3650 ft.

VAN ZANDT COUNTY—E. L. Chapman et al's Chas. Wolverton 1, lcn. Doc Cooper et al's Elliott 1, W. H. Bundy sur, dk down. Cranfill & Reynolds Co.'s Coker-Ledbetter 2, dr 660 ft. Warren T. Daniel et al's F. Cumby 1, John Wright sur, elev 457 ft, Pecan chalk 1690 to 1730 ft, dr sticky shale 2275 ft. Dennis Oil Corp.'s C. W. Morris 1, C. L. Morrison sur, elev 496 ft, dr 2825 ft. Grand Saline Oil Co.'s W. J. Carnes 1, S. P. Ry. sur, sd 1160 ft. Manley-Sprinkle-Evans' B. C. Andrews 1, M. Neal sur, 536 ft, sd 3005 ft. Kraft & Kelsey's Wylie Enas 1, J. Prado sur, dk. Hartt Pet. Co.'s L. H. Cox 1, A. C. Nugent sur, dk; B. F. Womble 1, P. Young sur, dk. Pandem Oil Corp. et al's R. L. Brinn-Gibbard 1, Ray Sunigas sur, elev 391 ft, Pecan chalk 2850 to 2979 ft, sd 3045 ft. L. G. Priest et al's Blanche Blewett 1, E. Porter sur, rig. L. B. Pruitt & Imperator Oil Co.'s G. W. Carter 1, (15.87 ac. tract) J. Walling sur, top Midway 460 ft, top Navarro 1190 ft, dr 1665 ft. Texas Chief Oil & Roy. Co.'s J. P. Foster 1, F. Montgomery sur, sp and sd. Vanco Oil Corp.'s Wages 1, rig. Van Zandt Oil & Dev. Co.'s Sharp-Robinson 1, J. B. Ybarbo sur, elev 372 ft, Pecan chalk 2764 ft, top Austin chalk 4116 ft, dr 4140 ft. Judge A. W. Walker et al's S. A. Stewart 1, A. J. Horsley sur, dk.

WOOD COUNTY—Big Indian Oil & Dev. Co. & Tidal Oil Co.'s R. J. King 1, Wm. Barnhill sur, elev 480 ft, Pecan chalk 2636 to 2875 ft, dr shale 3175 ft. Geo. L. Pace et al's B. G. Dickey 1, J. C. Clark sur, elev 458 ft, top Pecan chalk 2849 ft, dr shale 3035 ft.

EAST TEXAS

BOWIE COUNTY—Lee Timberlake's Tidwell 1, Jos. Eskell sur, dk.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 3045 ft.

FRANKLIN COUNTY—Harper Byers Oil Co.'s J. C. Laws 1, Rogers sur, dk.

GREGG COUNTY—Citex Oil Co.'s J. M. Hamby 1, Jno. Lout sur, lcn.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, W. W. Burris sur, dr shale 3300 ft.

MARION COUNTY—A. A. Trammell, Tr.'s, Hussey 1, Lockhart sur, dk. H. L. Hunt's Chatten 1, Grayson sur, topped chalk 1960 ft, set 6⅝ cas 2467 ft, TA 3415 ft.

MORRIS COUNTY—Tucker & Fullwood's Stagger Est. 1, Nelson sur, set 10-inch cas 42 ft.

RED RIVER COUNTY—E. L. Chapman's Norris & Guest 1, Larkin sur, sp wo. D. M. Buffington's Hoosier 1, Hughart sur, sd 2385 ft. Shad Harper's Garland 1, Wagley sur, sd 1862 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 2192 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft. Benedum & Trees' McCann 1, Nancy Beattie sur, set 9-inch cas 2762 ft, tested dry thru ds 4132 ft, arr deepen.

TITUS COUNTY—Canadian Oil Co.'s Walcott 1, D. N. Smith sur, topped lime 2618 ft, sd high water 3650 ft. Deep Rock Oil Co.'s First National Bank 1, Henry Culp sur, sd rebldg dk, 540 ft.

Border Field Active

Great Falls, Montana.—In the new border field, lying in northern Montana and southern Alberta, there are more than 20 wells either drilling, rigging up, or moving in to location. The field has five producing wells, two in Alberta and three in Montana. Among the new entrants in the field is Ohio Oil Company which will drill two wells immediately on its holdings on the Montana side of the line.

Osage Acreage Sold

Osage, Wyoming.—An Ohio syndicate is reported to have paid $36,000 for a 40-acre tract close to the big well in the new west extension of the old Osage field. The acreage involved belonged originally to Julisu Bok.

Mule Creek Resumes

Lusk, Wyoming.—Ohio Oil Company and Argo Oil Companies have resumed production in the Mule Creek field, extreme eastern Wyoming, after the customary winter shutdown. The field produces some 850 barrels per day.

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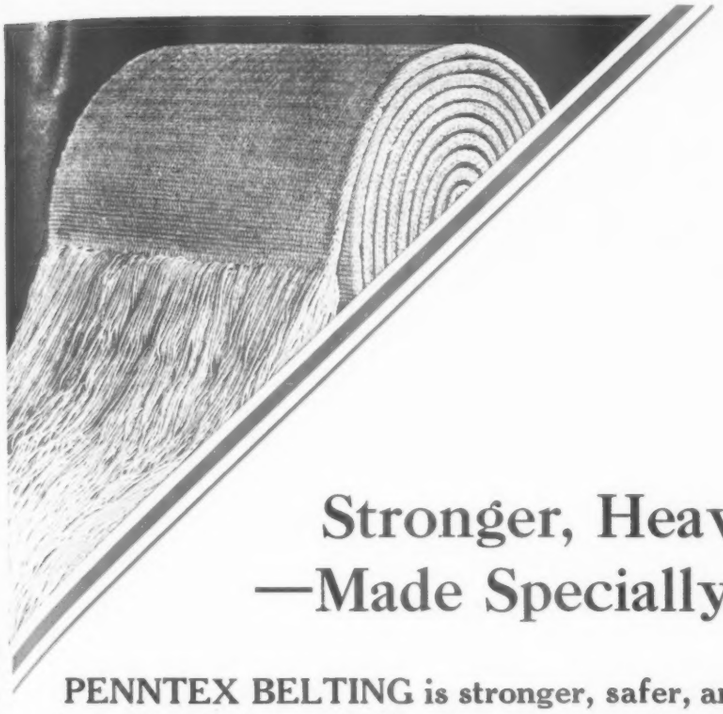

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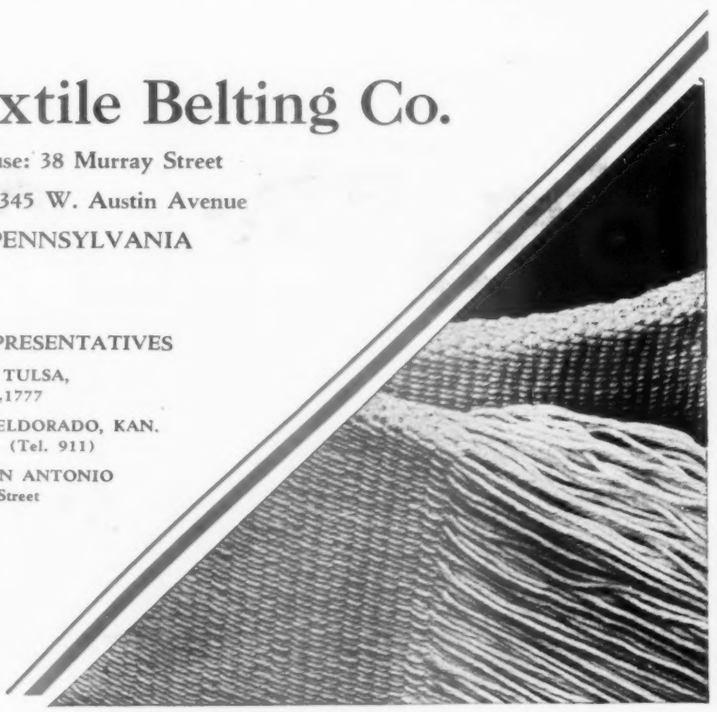


OKLAHOMA QUARTERLY PRODUCTION REPORT FOR FIRST QUARTER 1930

Following is a list of companies and individuals reporting to the Oklahoma Corporation Commission on Gross Production. This list gives those companies and individuals which reported production valued at more than $5,000. *Royalty returns have purposely been omitted from the list to help avoid confusion*

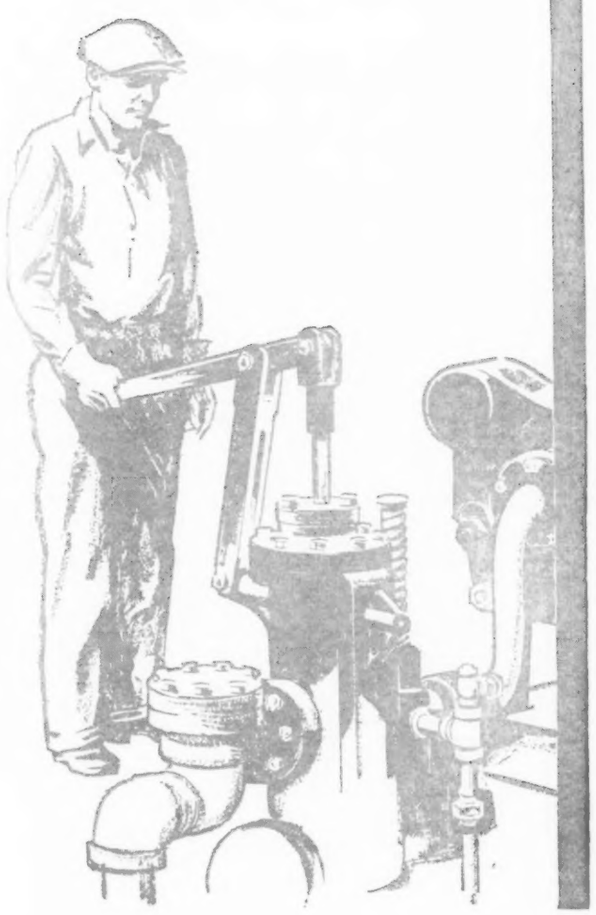
Dagger (†) *indicates value shown includes gas value also.*

Name— Address—	Barrels	Amount
Amerada Petroleum Corporation, Tulsa	801,905	1,157,662
Atlantic Oil Producing Company, Philadelphia	238,167	317,009
Anderson-Prichard Company, Oklahoma City	31,735	46,436
Argo Oil Company, Denver	25,179	38,848
Alma Petroleum Company, Oklahoma City	973	1,206
American Drilling Company, Lindsborg, Kansas	53,539	5,353
American Refining Properties, Wichita Falls, Texas	3,724	5,437
American Maracaibo Company, New York	11,223	20,129
American Oil & Refining Company, Oklahoma City	.....	15,845
American Oil Development, Pittsburgh	4,158	†5,450
N. L. Amster, Ardmore	5,170	†6,694
Peter Adamson, Jr., Tulsa	.....	8,457
S. W. Anthony, Mounds	.....	9,377
Arthur Oil Company, Sisterville, West Virginia	8,378	†14,924
Barnsdall Oil Company, Tulsa	1,395,703	1,933,328
Blackwell Oil & Gas Company, Cushing	.....	395,836
Benedum-Trees Oil Company, Pittsburgh	50,896	68,938
Bu-Vi-Bar Petroleum Corporation, Tulsa	23,677	38,236
Bay State Oil & Gas Company, Kansas City	11,865	16,076
Burke-Greis Oil Company, Tulsa	187,858	263,659
Brandenburg Brothers, Norman	.....	40,319
Bisett-Lytle and Gray, Tulsa	13,517	16,048
Berry Petroleum Company, Tulsa	8,327	10,822
G. S. Bole, Tulsa	8,741	11,991
Baker and Strawn, Tulsa	7,295	9,615
Bryan Petroleum Company, Tulsa	12,783	19,527
British-American Oil Producing Company, Tulsa	35,287	46,370
Baldwin & Suttan, Walters	13,282	17,229
Braden & Moore, Tulsa	5,210	6,872
Bridwell Oil Company, Wichita Falls, Texas	5,291	6,524
Babcock Brothers, Denison, Texas	9,407	15,253
G. W. Bilbo, Madill	.....	18,066
C. W. Boggs, Los Angeles	5,064	†5,453
J. R. Bridgeford & Company, New York	.....	4,124
Mable Gray Breene, Tulsa	4,307	5,465
E. A. Bradley, Tulsa	4,043	5,117
Ball Oil & Gas Company, Tulsa	3,678	5,302
C. E. Burlingame, Bartlesville	4,357	6,348
Boettcher Oil & Gas Company, Ada	.....	5,667
C. V. Beck, Nocona, Texas	48,387	60,769
E. M. Boring, Oklahoma City	11,738	15,016
J. G. Beard and S. I. Kolb, Duncan	4,739	†7,279
Frank M. Breen, Trustee, Tulsa	.....	6,538
James E. Berry, Stillwater	.....	5,152
Barbara Oil Company, Chicago	5,765	12,932
Continental Oil Company, Ponca City	442,743	†777,233
Carter Oil Company, Tulsa	2,637,173	3,379,830
Cromwell-Franklin Company, Oklahoma City	149,825	208,635
Cudahy Oil Company, Cleveland, Ohio	10,794	12,333
J. S. Cosden, Inc., Fort Worth, Texas	197,395	301,539
Champlin Refining Company, Enid	146,588	223,142
Comar Oil Company, St. Louis	525,272	818,299
Creo Oil Company, Tulsa	8,369	10,587
Coline Oil Company, Oklahoma City	756,682	†1,004,821
J. E. Crosbie, Inc., Tulsa	31,114	†44,578
Central Petroleum Company, Tulsa	5,410	6,912
Caddo Oil Company, Tulsa	17,255	†21,688
Clark & Cowden, Duncan	2,790	†9,315
G. W. Connelly, Caney, Kansas	.....	6,067
J. E. Catlett, Tulsa	.....	5,847
Herman D. Cornell, Tr., Los Angeles	3,388	6,210
J. W. Capps & B. H. Young, Trustee, Haskell	4,101	5,551
Commonwealth Trust Company, Okmulgee	4,544	5,384
Elizabeth R. Crockett Hayes, Oklahoma City	.....	84,298
W. S. Critchlow, Ardmore	6,633	9,347
Herman D. Connell, Trustee, Los Angeles	3,249	7,855
Joe Casperson, Tulsa	3,810	6,161
Conservation Oil Company, Tulsa	6,775	8,798
S. C. Canary, Tulsa	5,892	7,100
Crews Estate Oil & Gas Company, Enid	7,324	11,884
John I. Cary, Okmulgee	.....	11,143
Delmar Oil Company, Bartlesville	13,684	17,820
Delaware Consolidated Oil Company, Tulsa	45,462	39,649
Devonian Oil Company, Tulsa	174,038	266,166
Denver Producing & Refining Company, Okmulgee	29,803	40,562
Deep Rock Oil & Refining Company, Tulsa	271,909	†447,095
Deep Rock Oil & Refining Company, Tulsa	262,795	.....
Duncan Wichita Falls Pipe Line Company, Wichita Falls, Texas	12,992	†18,581
Darby Petroleum Corporation, Tulsa	352,435	483,504
Darby-Lynde Company, Tulsa	64,074	65,982
Dickson Oil Royalty Company, Tulsa	.....	3,136
Dixie Oil Company, Tulsa	410,543	†613,984
John Droppleman, Wewoka	.....	56,770
Dunmar Oil Company, Duncan	13,247	15,423
Empire Oil & Refining Company, Bartlesville	456,944	648,337
Eason Oil Company, Enid	132,759	190,800
Elliott & Vensel, Tulsa	7,109	8,111
Enterprise Transit Company, Titusville, Pennsylvania	2,596	2,898
Ellis Drilling Company, Wichita Falls, Texas	4,795	6,601
Eagle Picher Lead Company, Henryetta	2,217	3,026
A. J. Erlewine et al, Wilson	6,223	7,384
Elm Oil Company, Tulsa	7,655	9,392
Wirt Franklin Petroleum Corporation, Ardmore	597,453	793,093
Wirt Franklin, Ardmore	4,208	6,944
Liberty National Bank for Wirt Franklin and Mary C. Cates, Oklahoma City	1,744	†2,213
Liberty National Bank for Wirt Franklin, Oklahoma City	3,519	†4,382
D. W. Franchot & Company, Tulsa	27,884	36,715
J. S. Franks, Trustee, Oklahoma City	7,445	9,139
Foster Oil Company, Tulsa	5,124	7,166
Foster Petroleum Corporation, Bartlesville	81,557	118,092
Foster & Davis, Inc., Bartlesville	7,480	9,446

PRODUCTION OF 10 LEADING OKLAHOMA PRODUCERS FOR FIRST QUARTER, 1930

	Barrels of oil	Value	Fourth Quarter 1929 Barrels of oil	Fourth Quarter 1929 Value
Indian Territory Illuminating Company	3,541,918	$ 4,888,495	2,039,126	$ 3,230,567
Sinclair Oil & Gas Company	3,329,390	4,771,612	3,665,089	5,792,708
Magnolia Petroleum Company	3,247,894	4,036,289	3,409,271	4,899,783
Prairie Oil & Gas Company	3,200,865	4,565,492	3,689,594	5,863,503
Gypsy Oil Company	2,796,619	3,994,068	3,196,286	5,040,448
Carter Oil Company	2,637,173	3,379,830	2,752,016	4,369,929
Shell Petroleum Corporation	1,810,903	2,640,154	1,903,812	3,004,739
Pure Oil Company	1,411,737	2,015,687	1,944,769	2,508,438
Barnsdall Oil Company	1,395,703	1,933,328	776,015	1,215,457
Mid-Continent Petroleum Corporation	1,316,871	1,770,153	1,417,436	2,165,706
Total	24,689,073	$33,999,108	23,375,978	$61,467,226
Total all companies (A.P.I. estimates)	58,134,350	.....	60,151,200	.....

PRESSURE TESTED . . .



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LINE PIPE CASING DRILL PIPE OIL WELL TUBING

From ore to finished pipe or tube . . . Pittsburgh Seamless is the product of one Company's resources and skill.

Name— Address—	Barrels	Amount
D. C. Fitzgerald, Ardmore	4,317	5,541
Fort Ring Oil & Gas Company, Fort Worth, Texas	4,855	6,500
Fern Oil & Gas Company, Yale	.....	8,027
Finance Oil Company, Gowanda, New York	11,074	14,059
Gypsy Oil Company, Tulsa	2,796,619	3,994,068
Gray Oil Company, Tulsa	7,639	12,648
Glass and Harmon, Nowata	7,561	9,713
Gilcrease Oil Company, Tulsa	35,860	39,310
Gled Oil Company, Tulsa	5,854	7,635
Grimes and Gillespie, Tulsa	10,319	14,051
Grimes & Elliott, Tulsa	1,607	1,986
F. A. Gillespie and Sons, Tulsa	14,775	14,965
Gates Oil Company, Ardmore	9,001	10,114
Gledden Oil Corporation, Tulsa	4,627	6,176
Goddard Company, Ardmore	10,373	10,568
John B. Grieves, Terlton	.....	9,361
R. W. Getzendaner, Waxahachie, Texas	4,786	5,661
Gardner Petroleum Company, Tulsa	10,738	16,411
Georgia Oil & Gas Company, Capon	.....	4,930
James H. Graham, Tulsa	5,275	7,362
Gilmer Oil Company, Ardmore	33,709	39,918
Galt-Brown Company, Ardmore	20,394	28,272
R. F. Garland, Tulsa	.....	5,426
W. T. Hales, Oklahoma City	39,708	46,018
Houston Oil Company of Texas, Houston	65,771	94,561
J. A. Hull Company, Tulsa	25,000	37,299
Highway Oil Refining Corporation, Tulsa	50,013	68,426
Harland Oil Company, Walco	13,817	15,400
Hill Drilling & Development Company, Tulsa	7,475	9,869
Homaokla Oil Company, Tulsa	106,535	127,912
Harris-Hays Company, Okmulgee	7,487	10,349
E. L. Harris, Tulsa	.....	56,770
Harris and Haun, Inc., Blackwell	.....	14,485
Henderson Oil Company, Marietta, Ohio	6,937	8,317
J. H. Hudson, Ardmore	.....	30,994
Hay and McClure, Peoria, Illinois	8,965	14,192
T. J. Hughes Oil Company, Cushing	.....	5,067
Hall and Briscoe, Inc., Oklahoma City	132,376	205,573
S. W. Hayes, Oklahoma City	56,856	80,486
E. P. Harwell, Tulsa	2,773	5,656
W. J. Harrington, Coffeyville, Kansas	3,229	3,944
Frank Haskett, Agt., Tulsa	8,554	10,202
Home Stake Oil & Gas Company, Tulsa	.....	6,795
Home Gas Company, Cushing	18,828	37,432
J. W. Henry, Tulsa	3,183	10,480
Healdton Petroleum Company, Ardmore	.....	6,125
Iron Mountain Oil Company, Tulsa	15,528	19,258
Independent Oil & Gas Company, Tulsa	683,371	945,251
Indiana Oil & Gas Company, Tulsa	22,896	29,571
Imo Oil & Gas Company, Covington	.....	9,247
I. F. Ice & A. B. Ice & Ice Drilling Company, Tulsa	8,830	†11,037
Illinois-Oklahoma Petroleum Corporation, Duncan	2,008	2,157
Indian Territory Illuminating Oil Company, Bartlesville	3,541,918	4,888,495
O. M. Irelan, Sapulpa	4,399	5,491
R. A. Irwin, Tulsa	13,475	†18,633
L. B. Jackson, Tulsa	.....	15,169
Jackson & Morrison, Tulsa	.....	984
Jackson, Wise and Bovaird, Tulsa	.....	3,889
Wise and Jackson, Tulsa	.....	3,166
Wise, Jackson and Markham, Tulsa	.....	2,151
Wise, Jackson & Snedden, Tulsa	.....	960
Johnson Oil Refining Company, Chicago	9,428	12,939
Kay & Kiowa Oil Company, Tulsa	4,879	6,821
Kay Oil Company, Blackwell	22,984	35,567
Kewanee Oil & Gas Company, Titusville, Pa.	190,126	295,458
Keener Oil & Gas Company, Tulsa	35,326	42,530
M. S. Karcher, Tulsa	.....	5,490
K. D. & H. Oil Company, Ada	2,775	2,938
Kiester-Manning Company, Tulsa	3,842	5,595
Chas. E. Knox, Enid	51,687	76,632
C. E. Knox & Company, Enid	661	1,202
J. T. King, Independence, Kansas	3,584	5,131
Kingwood Oil Company, Okmulgee	34,992	51,448
Kreola Oil Company, Ardmore	9,354	6,035
Kreola-Colcord and Commerce, Ardmore	8,824	10,418
Lone Star Gas Company, Dallas, Texas	4,900	4,796
Louisiana Oil Refining Corporation, Shreveport, Louisiana	64,242	91,218
Lenox Oil Company, Okmulgee	.....	5,962
Link Oil Company, Tulsa	16,523	21,946
Lawson Petroleum Company, Tulsa	7,885	11,567
Little Nick Oil Company, Chickasha	.....	28,915
Lima Oil & Gas Company, Bartlesville	1,931	2,221
Lilami Oil Corporation, Oklahoma City	.....	5,525
Laurel Oil & Gas Company, Tulsa	36,513	47,628
S. H. Lattimore, Admr., Muskogee	.....	2,472
B. A. & T. E. Laselle, Ada	.....	27,730
C. H. Lebow, Tulsa	5,020	7,717
Lesh & McCall et al, Nacona, Texas	8,924	5,890
A. M. Landon, Independence, Kansas	5,814	7,350
Edgar L. and Carrie F. McCroskey, Asher	.....	22,756
McCulloch Oil Company, Tulsa	79,568	113,394
Floyd McCaughtry, Chickasha	.....	4,205
I. R. McQueen, Oklahoma City	5,447	8,079

Name— Address—	Barrels	Amount
McGinley-Sigler Company, Fort Worth	10,034	6,939
R. L. McGee, Tuttle	.....	10,353
C. L. McMahan, Tuttle	3,584	5,131
C. L. McMahan, Inc. and C. L. McMahan, Tuttle	59,552	84,144
McMan Oil & Gas Company, Tulsa	.....	12,779
McMan Oil & Gas Company, Tulsa	90,658	121,355
Margay Oil Corporation, Tulsa	57,324	78,014
Malernee Oil Company, Oklahoma City	4,839	†6,591
Marileen Oil & Gas Company, Blackwell	5,836	8,580
Mudge Oil Company, Pittsburgh	16,299	11,786
Minnehoma Oil & Gas Company, Tulsa	184,425	275,416
Oklahoma Company (formerly Marquette Oil Company), Tulsa	9,795	†27,671
Mul-Berry Oil Company, Cushing	.....	156,593
Mullendore Trust Company, Cleveland	.....	29,108
Maud Oil & Gas Company, Oklahoma City	7,232	10,877
Midco Oil Corporation, Tulsa	10,998	14,968
Mid-Continent Petroleum Corporation, Tulsa	1,316,871	1,770,153
Mid-Kansas Oil & Gas Company, Findlay, Ohio	507,542	722,197
J. H. Markham, Jr., Tulsa	17,846	23,980
Magnolia Petroleum Company, Dallas, Texas	3,247,894	4,036,289
J. F. Murphy, Sapulpa	.....	5,103
Murphy Oil Company, Philadelhpia	9,038	11,239
Clint Moore Estate, Tulsa	11,857	17,101
F. D. Misener, Tulsa	6,647	7,637
Dudley D. Morgan, Tulsa	.....	5,375
M. F. Mainard, Jr., Wewoka	.....	2,272
F. W. Merrick, Inc., Ardmore	.....	33,653
McGraw Oil Company, Tulsa	19,796	26,410
Ward S. Merrick, Ardmore	.....	5,142
F. W. Merrick and R. W. Coe, Ardmore	9,917	12,604
Natural Gas Producers Corporation, Tulsa	.....	87,135
Nowata Oil & Refining Company, Tulsa	5,504	7,059
New England Oil & Pipe Line Company, Tulsa	5,354	7,716
National Union Oil & Gas Company, Blackwell	4,879	7,662
"Nitchey," Seminole	.....	12,209
Walter Neustadt, Ardmore	5,016	5,863
W. C. Newman Corporation, Okmulgee	.....	20,708
W. C. Newman Corporation et al, Okmulgee	.....	2,681
I. Nadel, Tulsa	.....	5,468
Margaret Vivian Noble, Ardmore	12,322	17,627
Justina Neal, Maysville	.....	4,376
Norwood Oil Company, Tulsa	6,808	8,309
W. C. Norris, Tulsa	.....	8,989
National Refining Company, Cleveland, Ohio	3,673	†7,027
Noble Olson Drilling Company, Tulsa	16,283	19,588
Olean Petroleum Company, Bristow	1,781	2,517
Ohio Osage O l Company, Tulsa	4,578	7,219
Oklahoma Public Service Corporation, Cedar Rapids, Iowa	6,019	13,778
Osage Gas Production Company, Independence, Kansas	453	562
O'Rourke Oil Company, Bristow	.....	7,820
A. G. Olephant, Tulsa	8,449	7,645
Ona Oil Company, Blackwell	.....	24,273
Helen B., Russell B., and Horace B. Olds, Charles City, Iowa	60,189	†83,368
Petroleum Producers Company, Wichita Falls, Texas	4,770	6,593
The Petroleum Company, Tulsa	3,835	4,923
The Petroleum Company, M. H. Mosier, Tulsa	9,509	12,211
Papoose Oil Company, Tulsa	78,740	†119,289
Pure Oil Company, Chicago	1,411,737	2,015,687
Pierce Petroleum Corporation, Sand Springs	25,550	34,549
Privett Drilling Company, Maramec	.....	9,717
Producers Oil Company, Tulsa	8,695	12,504
Producers & Refiners Corporation, Independence, Kansas	375,875	491,351
Peters Petroleum Corporation, Tulsa	101,287	145,151
W. B. Pine, Okmulgee	100,722	137,709
Plymouth Petroleum Company et al, Okmulgee	4,098	5,296
Plymouth Petroleum Company and C. C. Crawford, Okmulgee	3,417	4,532
Paraffine Oil Company, Houston	7,049	8,226
Peerless Oil & Gas Company, Indiana, Pennsylvania	.....	9,861
Peerless Oil Producing Company, Tulsa	7,409	11,914
Plains Petroleum Company, Tulsa	7,502	10,354
Phoenix Oil Company, Pittsburgh	9,870	14,541
Pioneer Petroleum Company, Tulsa	10,733	12,889
Paragon Oil Company, Tulsa	3,985	5,198
Pawnee Oil Producing Company, Tulsa	3,781	5,407
W. G. Phillips and J. B. Milam, Chelsea	32,757	41,266
Phillips Petroleum Corporation, Bartlesville	468,107	642,470
Phillips Petroleum Corporation, Bartlesville	.....	88,584
Perkins & Cullum, Wichita Falls, Texas	12,431	15,384
Panden Oil Corporation, Wichita Falls, Texas	3,970	6,194
George L. Pace, Wichita Falls, Texas	32,239	39,041
Ponder-Pomeroy Company, Tulsa	173,591	278,337
Prairie Oil & Gas Company, Independence, Kansas	3,200,865	4,565,490
Page Oil Syndicate, Tulsa	.....	5,830
Penn-Ohio Gas Company, Pittsburgh	11,418	15,025
Pyramid Oil Company, Winchester, Kentucky	5,208	6,188
Red Bank Oil Company, Tulsa	51,566	70,613
Riverland Company, Tulsa	8,484	13,877
Ramsey Petroleum Corporation, Oklahoma City	105,837	115,050
Reserve Petroleum Company, Tulsa	24,926	34,440
Thomas C. Roberts, Ardmore	3,735	5,310

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Mid-Continent

HINDERLITER TOOL COMPANY

Tulsa, Oklahoma

Gulf Coast and Louisiana

NORVELL-WILDER SUPPLY COMPANY

Beaumont, Texas

Name— Address—	Barrels	Amount
Rockland Oil Company, Ardmore	22,606	23,061
Reiter-Foster Oil Corporation, Tulsa	36,350	54,382
Leslie Rogers, Tulsa	4,020	5,758
Reed and Harmon, Nowata	4,893	6,176
Regal Oil & Gas Company, Tulsa	19,587	26,876
Reliance Oil Company, Houston	4,304	4,938
Reliance Oil Company of Oklahoma, Houston	4,267	6,936
E. L. Robinson, Tulsa	4,482	5,569
E. L. Robinson-Gibson-Zahniser Oil Corporation, Tulsa	5,532	†10,290
Ryan Consolidated Petroleum Company, Tulsa	5,325	†7,471
J. W. Robins, Fort Worth, Texas	7,519	7,531
Joe Ray, Chickasha	.....	6,848
C. E. Roth, Independence, Kansas	3,966	5,257
Jake Rutz Oil Company, Morris	7,072	9,124
Riverside Oil & Refining Company, Tulsa	5,733	7,771
Rex Oil & Gas Company, Winchester, Kentucky	5,208	6,180
Helen B. Russell and H. B. Olds, Charles City, Iowa	60,189	82,034
Shell Petroleum Corporation, St. Louis	1,810,903	2,640,154
Skelly Oil Company, Tulsa	734,781	957,209
Selby Oil & Gas Company, Tulsa	26,595	†32,275
Sinclair Oil & Gas Company, Tulsa	3,329,390	4,771,612
Shoreline Oil & Gas Company, Tulsa	27,197	38,273
T. B. Slick, Clarion, Pennsylvania	350,398	500,498
Sunray Oil Company, Tulsa	35,478	48,156
Silurian Oil Company, St. Louis	114,082	145,529
South Bend Oil Company, Tulsa	.....	7,607
Sheridan Oil Company, Tulsa	13,732	16,892
Skelton-Moore Oil Company, Bartlesville	4,283	5,413
Sterling Oil & Gas Company, Tulsa	4,358	†5,686
Signal Oil Company, Tulsa	67,776	93,793
Sure Oil Corporation, Tulsa	4,171	5,503
Savoy Oil Company, Tulsa	6,505	7,356
Slab Oil Company, Ardmore	9,627	16,688
Sturm Drilling Company, Ardmore	12,879	16,376
C. P. Shertzer, Dewey	5,019	5,720
Sands Petroleum Corporation, Tulsa	7,031	10,313
James A. Swindler, Muskogee	4,743	7,592
Shasta Oil Company, Wichita Falls, Texas	68,566	86,472
George M. Snedden, Tulsa	31,581	45,040
G. A. Simons, Okmulgee	.....	9,111
Simpson Fell Oil Company, Ardmore	19,028	21,825
Hary Stekoll, Tulsa	12,326	16,665
C. E. Sykes, Ardmore	.....	3,362

Name— Address—	Barrels	Amount
Louis Sikes, Oklahoma City	.....	
Baldwin and Sutton, Walters	13,282	1
Robert C. Sharp, Tulsa	4,357	
Snowden and McSweeney, New York City	.....	
Simms Oil Company, Dallas, Texas	106,364	153,
J. C. Shaffer, Oklahoma City	30,914	
Marie S. Smith, Ardmore	5,781	
Will H. Smith, Ardmore	3,538	
Estate, C. R. Smith, Ardmore	2,744	
Charles R. Smith, Jr., Ardmore	4,718	
J. L. Selby, Muskogee	.....	
C. B. Shaffer, Chicago	20,775	
J. B. Schermerhorn, Inc., Minenapolis, Minnesota	60,806	
Schermerhorn Oil Company, Minneapolis, Minnesota	4,252	
Schermerhorn-Young, Ardmore, Oklahoma	1,108	
Schermerhorn-Ardmore Company, Minneapolis, Minn.	79,945	†89,
Transcontinental Oil Company, Tulsa	93,207	
The Texas Company, Tulsa	1,090,191	
Texas Pacific Coal and Oil Company, Thurber, Tex.	48,977	
Tidal Oil Company, Tulsa	423,276	
Twin State Oil Company, Tulsa	387,868	
Turman Oil Company, Tulsa	128,644	
Thlocco Oil Company, Tulsa	8,569	
Gillia Umburn, Weleetka	.....	
H. B. Fell, Receiver, for United Eight Oil Trust, Ardmore	5,641	
Union Oil & Mining Company, Tulsa	4,537	
Vacuum Oil Company, Houston	108,853	
Valley-Osage Oil Company, Tulsa	16,791	
Venmex Oil Company & Keystone Prod. Company, Wichita Falls, Texas	97,439	†123,
Vernon Oil & Gas Company, Blackwell	.....	
Wiser Oil Company, Sisterville, West Virginia	82,262	
White Eagle Oil & Refining Company, Wichita, Kansas	16,765	†27,
L. H. Wentz, Ponca City	142,548	†222,
Warner-Caldwell Oil Company, Titusville, Pa.	19,295	
Wellsville Oil Company, Wellsville, New York	9,563	
Wofford Drilling Company, Inc., Tulsa	9,419	
H. J. Whitehill & H. C. Weible, Tulsa	10,727	
Whitehill Oil Corporation, Tulsa	14,076	
Westerly Oil Company, Bartlesville	4,017	
Westland Oil Corporation, Tulsa	27,183	
Watchorn Oil & Gas Company, Oklahoma City	7,974	
Wittmer Oil & Gas Properties, Pittsburgh, Pa.	4,176	
Wolverine Petroleum Corporation, St. Louis Mo.	157,117	
Westheimer & Daube, Ardmore	120,072	
Wigton & Long Company, Okmulgee	.....	
Margaret S. Weeks, Ardmore	4,719	
Winkler & McQueen, Inc., Duncan	7,795	
Walsh Oil Company, Tulsa	5,428	
Wood Oil Company, Tulsa	.....	
Wood-Gilbert-Wood Syndicate No. 1, Oklahoma City	6,475	
J. H. Wright, Estate, Sapulpa	16,150	
H. F. Wilcox Oil & Gas Company, Tulsa	189,478	
J. E. Wallace, Okmulgee	.....	
Winona Oil Company of Delaware, Tulsa	35,794	
L. W. Zimmerman, Chicago	29,156	

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(BE SURE TO STATE COMPANY AND POSITION, otherwise it will be necessary for us to hold up entering your subscription until we can get this information from you.)

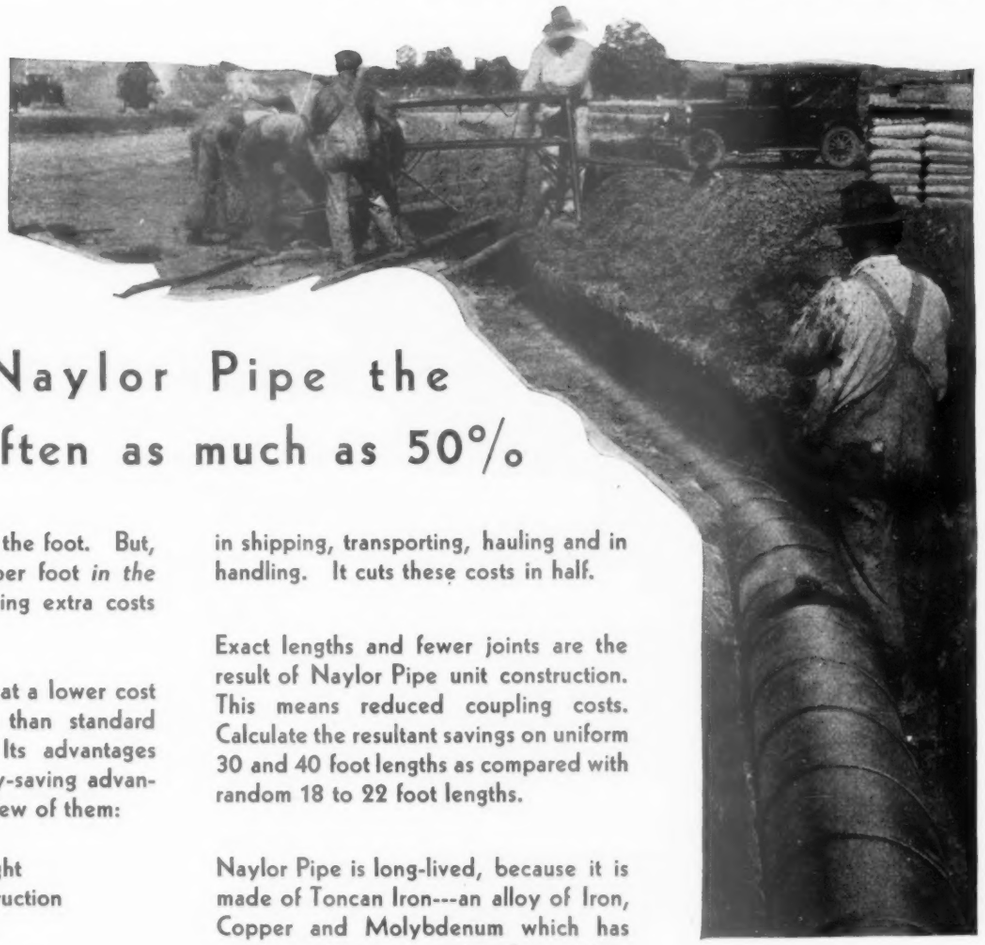
Republic Steel Corporation has started operations in the new stainless steel finishing division, according to an announcement by T. M. Girdler, chairman of the board of the company. The new equipment, located at Massillon, gives the company greatly increased capacity for the production of highly polished stainless sheets. The metal is produced under Krupp license.

The equipment consists of 40 units, specially designed by company engineers. Rough grinding, polishing and buffing operations are carried on in separate rooms so that no grit in the air may mar the final finish. In securing the mirror finish new oscillating type machines are used which eliminate all polishing marks.

According to Republic Steel Corporation officials, the development of machinery for quantity polishing of Enduro Nirosta stainless steel largely solves the problem of its production on a volume basis in this country.

Lee O. Koen, vice president of W-K-M Company, Inc., has just returned from an extensive trip through the California oil fields, where he had gone to study new equipment and methods. The trip kept him away from his Houston office almost three weeks.

The *Real* Cost Of Pipe Is The Cost As *Laid*



...With Naylor Pipe the saving is often as much as 50%

PIPE is purchased by the foot. But, think of the cost per foot *in the ground*. Are you paying extra costs for laying?

Naylor Pipe can be laid at a lower cost per foot in the ground than standard weight wrought pipe. Its advantages are economical... money-saving advantages. Here are just a few of them:

1. Light Weight
2. Unit Construction
3. Long Life

No other pressure pipe is as light as Naylor Pipe. And light weight counts in shipping, transporting, hauling and in handling. It cuts these costs in half.

Exact lengths and fewer joints are the result of Naylor Pipe unit construction. This means reduced coupling costs. Calculate the resultant savings on uniform 30 and 40 foot lengths as compared with random 18 to 22 foot lengths.

Naylor Pipe is long-lived, because it is made of Toncan Iron---an alloy of Iron, Copper and Molybdenum which has greater resistance to rust and corrosion. Longer pipe life lowers maintenance costs.

Laying a 16 ' Naylor Pipe line for a prominent Oklahoma oil company

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TONCAN COPPER

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Maximum Structural Strength Mo-lyb-den-um With Minimum Weight

IRON

Standardized Naylor Pipe is made in sizes 6" to 12" I. D. and 14" to 20" O. D. in any uniform length desired up to 40' 0". Ends made to wrought pipe standards for all types of coupling.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.

Toncan Copper Molybdenum Iron is a development of Central Alloy Steel Corporation, the world's largest and most highly specialized alloy steel producers. It possesses a superior corrosion resistance, making it the favored pipe material.

McCollum Exploration Co.

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County Maps

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Descriptions and prices on application

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Wichita Falls, Texas

Ground BARYTES

4.3+ Specific Gravity

from our own mines

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Exposition Committee Adds New Building

Tulsa.—Another building for the International Petroleum Exposition and Congress has been approved by the executive committee. This building will be known as the California building and will by 240x60 feet, giving the exposition an additional 66 booths to take care of the next meeting October 4 to 11, 1930.

With all inside space for this exposition sold and applications on file from 74 additional manufacturing concerns, the added space was approved May 16 by the executive committee. This is the second building to be added this year. Previously the management had provided a building for marketers and refiners. This building has been filled and part of the space in the new building will be allotted to exhibitors of this class.

The action taken was to the effect that A. W. Leonard, chairman of the executive committee, and D. D. Wertzberger, chairman of the building and grounds committee, take action at once to have the building ready in advance of the opening of the exposition.

The meeting was attended by W. G. Skelly, president of Skelly Oil Company and president of the exposition; A. W. Leonard, Devonian Oil Company, treasurer and chairman of the executive committee of the exposition; E. B. Reeser, Barnsdall Oil Corporation, and president of the American Petroleum Institute; R. H. Bartlett, the Braden Company; George A. Dye, H. F. Wilcox Oil & Gas Company; John M. Egan, Oil & Gas Journal; Alf W. Heggem, Oil Well Improvements Company; Frank J. Hinderliter, Hinderliter Tool Company; J. Burr Gibbons, Oil Well Improvements Company; J. M. Hayner, Phantom Oil Company; Ralph B. Pringle, Tidal Oil Company; D. D. Wertzberger, Wertzberger Derrick Company; Waite Phillips, Independent Oil & Gas Company; F. D. Bostwick, Gilbert & Barker; William Holden, Tulsa chamber of commerce and secretary of the exposition; William B. Way general manager of the exposition; Victor Shenk, assistant general manager; R. C. Conine, director of publicity, and A. O. Olson, auditor.

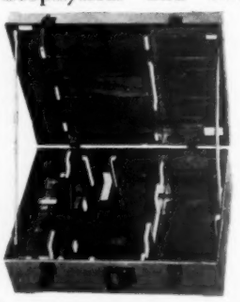
Diesel Engines Used

Los Angeles.—Standard Oil Company is using Diesel engines to generate electrical power for drilling Vickers 1-24 in the Baldwin Hills-Inglewood field, which probably is the first case on record where engines of this type have been employed for this specific purpose.

Oil Companies Merge

Great Falls, Montana.—An interesting item in the news from the old Kevin-Sunburst field is the announcement of the merger of Jack Owens Oil Company, Oilmont Investment Company, Sunrise Production Company, and Railroad Employes Production Company, into one concern to be known as Montana Gas Company. The new concern will control some 600 acres on the west side of the Kevin-Sunburst field on which it has already one well drilling which was originally started by the Sunrise company.

Geophysical and other instrument cases, tool boxes, etc.



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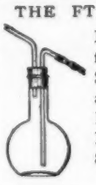

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Position .....

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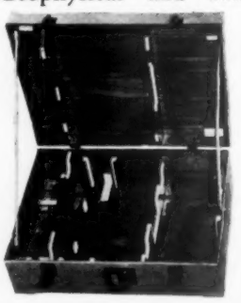

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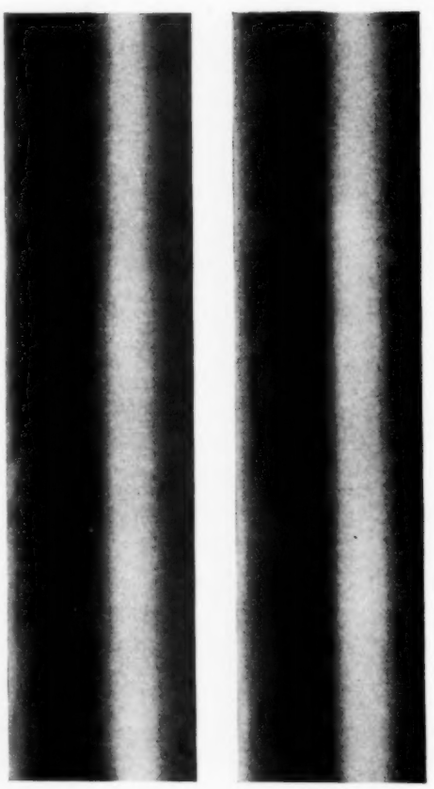
WEIGHT RECORDING, MEASUREMENT AND CONTROL

This service demands pipe of the highest QUALITY



Bethlehem maintains at Houston, Texas, and Wilmington, Calif., well assorted stocks of line pipe, ready for immediate shipment. Both threaded and coupled and plain-end pipe are included in these stocks.

The importance of quality pipe in pipe line construction is apparent when the severe character of this service is considered. The fluids or gases must be safely conveyed, often for hundreds of miles, over mountains, through marshes, across rivers and streams. The stresses and strains are unusually heavy. The pipe used must not only possess decidedly high quality, but must readily lend itself to field construction.

Bethlehem Steel Pipe is especially suitable for use in pipe lines. Strength, uniformity, ductility, sound welds, clean, smooth surfaces, freedom from flaws, resistance to corrosion —these qualities are assured in Bethlehem Pipe by careful manufacture, by the use of the most suitable grades of raw material, and by exceptionally critical tests and inspections.

BETHLEHEM STEEL COMPANY, *General Offices:* Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Buffalo, Pittsburgh, Cleveland, Cincinnati, Detroit, Chicago, St. Louis.

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Seattle, Portland, Honolulu.

Export Distributor: Bethlehem Steel Export Corporation, 25 Broadway, New York City.

BETHLEHEM STEEL PIPE

New Equipment for the Field

Machinery - Tools - Catalogs - Books

Sullivan Roller Shieves Left, assembled; right, open

Roller Sheaves

SULLIVAN MACHINERY COMPANY

Sullivan Machinery Company, Chicago, has designed a new roller bearing sheave or tail block for use in connection with scraper loading or slushing operations, in the interest of improving the character of slushing service rendered by Sullivan compressed air and electric portable hoists.

The success of underground scraper loading depends upon the freedom from delay with which the work is attended. Earlier designs of sheaves available on the open market have frequently failed to stand up to the severe service, causing delays by jamming or splintering of the wire rope, wearing out of the bearings, and undue binding and friction of the pulley against the side plates.

The Sullivan roller sheaves built in eight inch, 10 and 12-inch diameters, are of unusually heavy, rugged construction. The sheave itself is made of manganese steel, and the side plates are electric steel castings. The swivel hook is made of drop forged alloy steel. A swivel eyebolt may be substituted for the hook if desired. The Hyatt roller bearing supporting the sheave revolves on a hardened steel shaft of large diameter, which is hollow and serves as a reservoir for lubricant. The sheave is recessed into the side plates, thus preventing the possibility of jamming as well as undue wear on the rope. Snatch block construction has been employed in these sheaves, and the block may be readily opened by removing a pin. The opening for the rope at the top of the sheave will permit a square knot in the wire rope to pass through without binding.

Lubrication is by means of improved grease gun fittings. These sheaves are rated at a maximum capacity of 6000 pounds for the eight-inch sheave, 10,000 for 10-inch, and 140,000 for the 12-inch sheave.

A bulletin describing the Sullivan Roller Sheave, No. 76-K will be sent on request to the manufacturer.

New Tubing Support

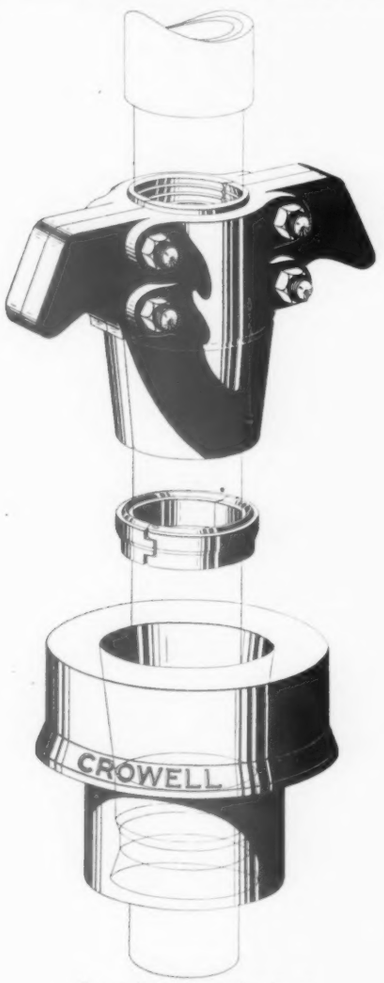
F. M. CROWELL COMPANY, INC.

F. M. Crowell Company, Inc., Tulsa, has recently introduced the new Type "X" Crowell safety tubing support, designed for greater strength than the tubing itself and to hold any string of tubing.

The feature of this new support is to protect the tubing by eliminating the old crimping feature that resulted in the weakening of the joint.

The design of this new type tubing support, which has been patented, is clearly obvious in the accompanying illustration.

Complete details are available on this support by writing the F. M. Crowell Company, Inc., Box 3128, Tulsa.



Crowell Tubing Support

Wrenches

BLACKHAWK MANUFACTURING COMPANY

Blackhawk Manufacturing Company, 148 Broadway, Milwaukee, Wisconsin, has placed on the market a new set of box type wrenches with improved broaching of the double hex openings and slim heads to get into close quarters and over and under obstructions. This set is chrome vanadium chrom-

NEW EQUIPMENT FOR THE FIELD

Blackhawk Wrench Sets

ium plated and the sizes required are put up in a leatherette case.

The 2900 set is made up of six of the single offset type wrenches with the same size socket opening at each end of the wrench. Sizes in this set include the following: 7/16-inch, ½-inch, 9/16-inch, ⅝-inch, 11/16-inch and ¾-inch.

The 2702 set includes the five most popular size wrenches in double hexagons. They are double offset with different openings at each end of the handle. These openings include the ⅜-inch, 7/16-inch, ½-inch, 9/16-inch and ⅝-inch. The set is complete in a leatherette roll that fits the pocket.

The manufacturers announce that mechanics may obtain complete information on these sets and other Blackhawk wrenches by writing for the 1930 handy guide for mechanics, a manual on the company's wrenches.

New Electrode

LINCOLN ELECTRIC COMPANY

Lincoln Electric Company, Cleveland, Ohio, announces a new welding electrode for use on light gauge material which will be known as "Lightweld."

It is used on 16 to 22-gauge in making a lap, butt or corner weld, and is designed to give a dense weld free from pin holes.

It was designed to be used with a manual carbon arc and with from 30 to 60 amperes direct current and is suitable for horizontal, vertical or overhead work.

The size of the rod is 1/16-inch in diameter and 30 inches long and is put up in 10-pound containers.

Butler Manufacturing Company has appointed Ralph B. Henno as Eastern and export representative with offices at 130 West 42nd Street, New York City. He has been with this organization since 1924, representing the chemical purification equipment division of the company in Connecticutt, New York, New Jersey and the Philadelphia territory. Under Henno the New York office is now being organized to handle the full line of Butler manufacture, including oil field storage, oil transportation equipment and steel buildings.

Handbook on Unitization

"Handbook on Unitization of Oil Pools," compiled by the Mid-Continent Oil & Gas Association is now available for distribution.

The book is divided into two parts. The first part covers the definition of unitization, gives examples, benefits and comparison of competitive and unit operation, and concludes by setting forth the principles and rules of practice in support of unitization.

Part two concerns the accounting procedure on joint interest leases, showing the form of broker's contract, the committee form, the trustee form, the adjustment form, the "gypsy" form, and finally the contract for co-operative development and operation. A bibliography concludes the text.

This book describes the plan which has come about as a result of the general desire to operate oil leases economically. The unitization movement which has spread so widely throughout the oil fields of the United States, may be said to be the result of necessity; results it attains include economy of operation, greater recovery of oil and stability of output.

The plan is not essentially American; for foreign oil is cheaply produced by a similar proceedure. Reduced prices of domestic oil has necessitated cheaper production practice, hence unitization.

During the 70 years of the petroleum industry's history, advancement has been recorded in nearly every department except in the relation of the producer to his immediate surroundings and competitors. The individual oil lease or tract of land rather than the oil pool has been the competiting unit in this country; with the result that checkerboard production has been uneconomical, and has resulted in depressed crude prices.

In chapter one of the book, the result of unitization is given, which is, "to convert a number of separately owned properties into one large property to be developed and operated as such at the proportional expense and for the proportional benefit of the several parties in interest. Questions of policy concerning the development and operation of the unitized area may be determined in advance, to some extent by the original unitization agreement but it is customary to provide therein for a committee representing unit holders to which such questions may be referred from time to time by the operating agent or anyone interested. * * * Once launched, unitization permits the committee and operating agent to devise an orderly drilling plan which may avoid the drilling of many useless wells, conserve the gas pressure and more effectually use it to produce the oil, and in many ways correct the disadvantages and abuses of the older competitive method such as undue haste, duplication of development and operating expense, waste of gas, improper spacing and timing of wells and other inefficient practices."

In chapter two several interesting examples of unitized operation are shown, together with maps of the areas. Chapter three lists the known benefits of unitization, with a hypothetical example of competitive versus unitized development. In chapter four a series of comparisons of competitive and unit operation are given, and the several economies both major and minor, are cited. Chapter five contains seven rules of practice necessary to the establishment of unitization as a controlling policy. These are:

"The oil pool rather than the individual tract or lease is the natural competitive unit.

"The buying of divided tracts or spreads of acreage as means of promoting or financing new development pro-

"Sticking to the Job"

AND it's a man's job, too. Honest, downright, hairy-chested work.—Gilmer V-belts will do it every time. No sick leave for them, no sly slipping that results in power loss, no stretching which later means "slack."

To transmit power — honestly — a belt must have these three vitally necessary features —

1. *It must fit the sheave perfectly.*
2. *It must be pliant, yet tough.*
3. *It must be protected against fraying and breaking.*

Study the cross section of the Gilmer V-belt above. Note for yourself its scientific construction. In test after test, this in-built sturdiness has made the Gilmer *outwear* and *outperform* any other belt made.

Try a set of Gilmers on one of your multiple drives. We'll wager you'll never stop using them, once you start. L. H. Gilmer Co., Tacony, Phila., Pa.

Note the extremely rugged construction of the Gilmer belt. Note the layers of extra-strong cord placed at the neutral axis, the specially prepared rubber, and the sturdy canvas jacket which encloses the entire belt.

Gilmer

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This belt is scientifically built up in a mould the exact shape of a sheave so that perfect fit is certain. These factors account for the great strength and efficiency of the Gilmer V-belt.

BADGETT LUBRICATOR SAVES SIX WAYS

1. TIME
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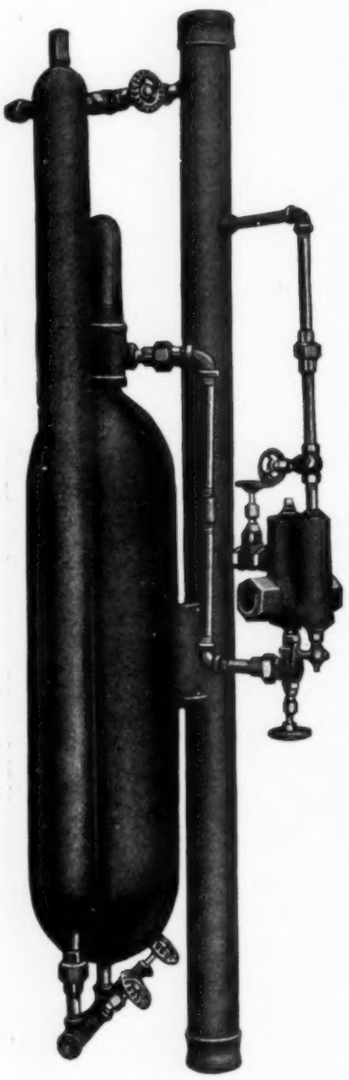
3. SHUT - DOWNS
4. DELAYS
5. ENGINE WEAR
6. And MONEY



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This lubricator is a positive, regular feed; can be attached to any steam line; sits upright; may be attached at bottom or both ends; operated by water pressure. Here are some present users of Badgett Lubricators:

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Loffland Bros., Tulsa
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Summit Drilling Co., Tulsa
G. J. Beard, Duncan, Okla.
Hubbard & Woffard, Tulsa
Herman Wagner, Okla. City
Byers Drilling Co., Okla. City
A & B Drilling Co., Okla. City
Capitol Drilling Co., Okla. City
Prince & Prince, Electra, Tex.
Clark & Cowden, Duncan, Okla.
Hartman & Hamilton, Seminole, Okla.
Independent Oil Co., Okla. City
G. E. Gilberth, Okla. City
Golden & Cochran, Wink, Texas.
Haynes Drilling Co., Wink, Texas.
Murphy & Graham, Seminole, Okla.
Steinberg & Yerkee, Seminole, Okla.
Fain McGaha, Wichita Falls, Texas
Alleson & Clevinger, Seminole, Okla.
Winkler & McQueen, Duncan, Okla.
Reynold Drilling Co., Seminole, Okla.
Manahan Drilling Co., Seminole, Okla.
Herndon Drilling Co., Seminole, Okla.

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You are not obligating yourself when you write for details.

Badgett Steam Lubricator Co.
CHICKASHA, OKLAHOMA

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O. H. Steel Boiler Tubes
Armco Ingot Iron Boiler Tubes
Cop-R-Loy Boiler Tubes

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Harrisburg Supply Company, Tulsa, Oklahoma
A. M. Castle & Co., Chicago, Seattle, Washington; San Francisco, Calif.; Los Angeles, Calif.
Lukens Steel Company, New Orleans, La.

ARMCO IRON LINE PIPE and OIL WELL TUBING

Oil Fields in the United States

By WALTER A. VER WIEBE
Professor of Geology, University of Wichita

629 pages, 6 x 9, illustrated, $6.00

A complete and systematic presentation of the fundamental facts of oil accumulation in all fields of the United States. The book describes the structural elements which account for the presence of oil, the relation of structure to production and the peculiarities of the geological setting of all oil fields in the country.

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Manufacturer and Supply Dealer Notes

is inconsistent with and in opposition to unit development; and the industry can never be stabilized as long as this practice persists.

"Agreements to contribute dry hole money to procure tests of new prospective areas constitute an antiquated and deleterious practice unless confined to cases where a co-operative agreement has been made to insure orderly development and production when oil is found.

"The same economic considerations which prohibit the purchase of spreads of acreage and the contribution of dry hole money require also that no new drilling project should be undertaken in checkerboard areas until every effort has been made to unitize or to effect a co-operative agreement even though there is no occasion or request for purchase of spreads or contributions of dry hole money.

"Complete frankness, mutual confidence and trust are essential to success in the unitization movement.

"The practice of 'top-leasing' is regarded as unethical in the oil producing business.

"In order to promote the success of the unitization movement it is of the very greatest importance that chief executives see to it that land departments are instructed that unitization is definitely the policy of the company and that no exceptions are to be made; also that legal departments be instructed to take a liberal view of contract forms and as to adjustment of title requirements so that delay will be avoided and the formation of units will be facilitated."

The several accounting forms displayed in the second part of the book constitute a complete informational pic ture of unitization contracts.

Wilkinson Controller Company, 5700 Santa Fe Avenue, Los Angeles, has opened a branch factory and office at 436 Merchants and Manufacturers Building, Houston.

This company manufactures and distributes the Wilco duplex tank controls for regulating pressure on storage tanks, flow tanks and rundown tanks during periods of loading and unloading, and the expansion or contraction of gas in the tank. The Wilco duplex relief valve is another product of the line of regulator equipment of this company.

P. H. Wilkinson, president of the company, opened the Houston office May 15, and is managing the office, with R. Drummond as assistant. The territory covered by this office will include Texas and Louisiana. The Houston factory will serve as an assembly plant, where a line of the company's equipment will be on display, ready for shipment.

Wilkinson regulator equipment is used for taking wet gas off of tanks for the removal of gasoline in an absorption plant and for returning the tail gas through the Wilco duplex relief valve into the tanks.

Maintenance Engineering Corporation, Houston, Texas, announces the appointment of M. N. Aitken as sales engineer, effective June 1, 1930, to assist in promotion of the more technical specialties for refineries, pipe lines and power plants, handled by the Maintenance.

Mr. Aitken is a graduate of Rice Institute engineering department and for a period of time has been connected with the engineering department of Shell Petroleum Corporation. His experience as well as his wide acquaintenceship in the industry have especially fitted Mr. Aitken for the duties of his new connection.

E. E. DeBack, formerly assistant chief engineer for Engineering, Research & Equipment Company at Dallas, Texas, has accepted the same position with Petroleum Engineering, Inc., with offices at Tulsa, Oklahoma.

Edward Valve & Manufacturing Company has appointed the Taubman Supply Corporation as its representative in the Oklahoma and Northern Arkansas districts for the sale of its products. Headquarters is at Tulsa.

The accompanying photographs show Bandini No. 18, Santa Fe Springs field, California, which was capped in 32 hours after blowing out. Figure 1 shows the top of the well casing with a Warren head and flange of the Shaffer Tool Works, and also the Christmas tree already made up on the cap to the head hanging in the crane just before it was set over the well. Figure 2 shows the cap in place with the well flowing out of the long riser through the Christmas tree valves.

Actual capping of the well took only 4½ hours, and no injuries were suffered during the job of bringing the well under control.

The Warren Olinda head was also used in landing 9353 feet of 5¾-inch casing in the Standard Oil Company of California's Mascot H 1, near Taft, California, recently. Bottom of the hole was 9629 feet, the world's deepest hole.

FIGURE 2

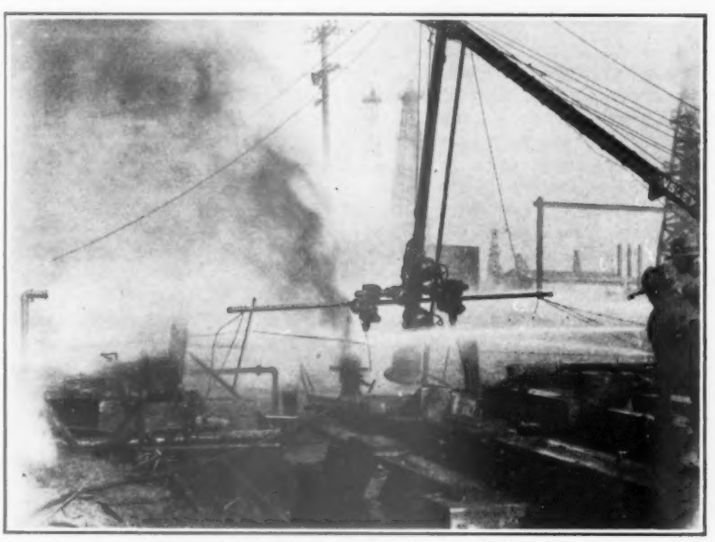

FIGURE 1

Manufacturer and Supply Dealer Notes

California Manufacturer Advocates Oil Field Equipment Manufacturers to Become "Export Minded"

By H. H. CLARK
Vice-President and Sales Manager of the Baash Ross Tool Company

THE oil equipment manufacturer today, who expects to substantially increase his yearly sales volume in the face of constantly decreasing local and national markets due to ungovernable conditions must become "export minded."

Many variable and constant factors have in a large measure brought about this declining market condition or sales slump, and as a result have placed a serious selling burden on the oil field equipment manufacturers, now geared to high quantity production. They have been caused by the constantly changing drilling conditions, and today have been so decidedly brought to our attention due to the general depression in many of the other industries throughout the country as well as in the oil industry, that they have become real, vital issues and their depressing effect on sales necessitates the immediate consideration of all sales heads. No doubt many of these factors will be eliminated or checked in time, but despite this apparent fact, if they are carefully analyzed and their eventual reaction on the national sales market observed, it will clearly be seen that they will always tend to decrease the potential oil field equipment sales market in this country for years to come.

The more general and evident factors creating a general sales slump are as follows: the curtailment of the national drilling program making new buying trends in the oil companies; the increased demands on oil field equipment manufacturers for the servicing of equipment; the ever changing drilling conditions forcing manufacturers to redesign and invent new tools under considerable expense and greater manufacturing costs; and the many temporary sales problems which such major factors always create in the local fields.

But the "export minded" oil field equipment manufacturer knows that the export business, or the vast potential foreign markets offer the only solution to these paramount sales problems, the result of these multiple factors.

It was but a few years ago when an inquiry from the foreign fields was considered in the light of a curiosity and orders were only filled after considerable work in obtaining details on tariffs, taxes, dutiable shipping weights, and shipping routes and many other details. This scanty information plus a hazy general impression of the location of this country and general facts of the drilling conditions were practically all of the information any oil equipment manufacturer had concerning the foreign fields.

Manufacturers Now Informed

Today, manufacturers, if they have been alert, have received from the oil publications alone a detailed picture of the actual drilling conditions abroad and hundreds of other bits of information to guide them in exploiting this great potential market. These articles, have not only served the oil field equipment manufacturer for future sales work, but also have been very helpful to the engineering departments in their development work in order to design devices that will function under the stresses of conditions peculiar to the foreign fields. In the early days of manufacturing, tools were designed to take care of drilling conditions found in the local fields, and if other fields were exploited the manufacturer made observation of drilling conditions and redesigned tools to fit these conditions. But today, in exploiting the foreign fields the majority of oil field equipment manufacturers must depend on the articles published by the oil publications in order to get all the available information on drilling conditions so vital to successful manufacturing for this market. Such information on drilling structures, native help problems, repair shop facilities, transportation problems, and many other conditions have a direct bearing on future sales and engineering problems.

Foreign Activities Presented

The oil magazines by their splendid articles on foreign field activities have been the prime movers in stimulating the oil field equipment manufacturers to obtain this export business. One of the most outstanding contributions for a better understanding of the actual conditions existing in foreign fields is the comprehensive series of surveys on the South American countries made by THE OIL WEEKLY staff. Now in order to give the manufacturers a complete picture of the oil fields throughout the world, THE OIL WEEKLY staff is compiling surveys on the oil fields of Russia, Roumania, Persia, and other countries. From such sources first hand information can be collected and assembled and should be filed for future reference by the various departments, such as sales, engineering, credit, and transportation departments.

It is well to mention here that manufacturers located in inland cities have not taken advantage of securing foreign business as quickly as concerns located in cities with sea ports. This is primarily due to the fact that companies with ocean transportation so near at hand have this decided advantage, and know the value, importance, and size of the export business.

It is no secret that the concerns which have taken advantage of the export business have figured their sales quota today to include a tremendous gain in export sales and consider it one of the most important ways of showing a sales gain for the coming year.

Many companies have opened offices in New York City or made connections with export sales agencies, which attests to the importance these concerns place on the future export business. But to concerns that for various reasons cannot maintain such connections, there are many other channels open for breaking into the foreign market until the time comes when they can departmentize this new sales business. It is worth while to mention here a few of the ways by which this market can be reached.

Utilize Oil Publications

The easiest and the most productive way in reaching the foreign operators is through the oil publications. All of the publications have made continuous drives for foreign readers and have a very complete coverage. This form of advertising should be supplemented by a consistent direct mail campaign of broadsides, folders and catalogue inserts. In regard to direct by mail work, it is well to mention here that any foreign list can only be kept up to date by sending out once a month or every other month, literature, since the same holds true here as in our local fields that the operators shift about from one field to the other. To build up a list of foreign operators is not a difficult matter, if the manufacturer will go about this problem systematically.

Most of the magazines give additional services to their advertising clients in the form of reports which contain the names of foreign operators in various fields, and also send out general lists of names identified with new fields or fields whose activities are well known. With a list of this kind as a nucleus for direct by mail work, the manufacturer can obtain names of foreign operators who attend the Tulsa and Los Angeles exposition, also the names of foreign visitors in his city or

Again—a Better HOWE CHAIN

18 MONTHS ago Howe Chain brought out XXS-40 and XXS-1240 chain "Strongest Rotary Chains yet developed."

Still not being satisfied, Howe Chain have built increased durability into these chains by using improved material in the roller and bushing and by adopting the new tubular cotter. Howe Chain have led the field in pioneering improvements in rotary chains.

Send for full particulars

XXS-1240 A. P. I. 4
(Illustrated)
Strength 150,000 lbs.

XXS-40 A. P. I. 3
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Strength 70,000 lbs.

HOWE CHAIN COMPANY, CHAIN SPECIALISTS, MUSKEGON, MICH.
Sold by Republic Supply Co.

H-41

HOWE CHAIN

Why Appleman Bits Drill Cheaper

The many patented features of the APPLEMAN GUMBO BIT bring economies to the experienced drillers using them. Operators have learned through their use that each feature of the Appleman Bit is a money saver which brings increased profits to their pockets.

Straight water courses lead direct to cutting edges giving maximum cooling effect and pressure at the bottom of the well which quickly washes away cuttings and eliminates choking up.

Concave shaped blades allow wear on the back to retain sharp cutting edges for both the sides and the bottom of the well.

Sharp cutting edges give great speed and a well-prepared sidewall.

There is less labor and expense with this bit for it makes an average of 60% to 100% more hole in the same given time in all formations excepting rock.

Write for complete information

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The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

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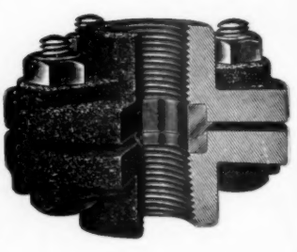


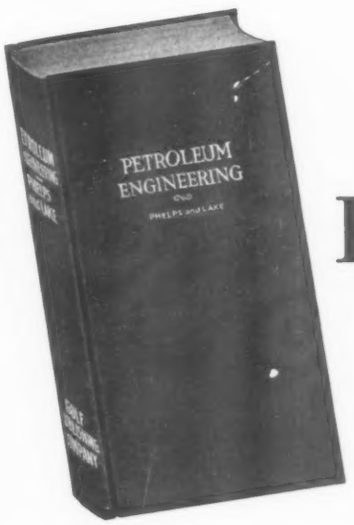
coming into the country, or by obtaining foreign reference books and magazines he can find names to add to his list; and also many of the companies supply the names of their operators. There is no royal road to a good foreign list—it must be assembled by careful checking of all sources carrying foreign news articles, surveys, and other data.

Cover Future Fields, Too

In mailing out your literature to foreign fields it is well to remember to cover the fields which are going to be opened in the future as well as covering the major fields. When competition becomes keener in the foreign marts, the manufacturer who has pioneered the new fields with his literature is gound to receive the first shot of business—the same sales effort and plans that applied to the exploitation of new fields in this country holds equally as good in the exploitation of foreign fields.

With the English, Canadian, German and other foreign manufacturers making heavy inroads in this foreign market, it behooves the American manufacturer to adopt a vigorous and active sales plan, if he is to obtain his share of this business. Field men of foreign birth naturally favor products manufactured in their own country, and from latest reports they are increasing in numbers very considerably. It is not my intention to create the impression that American manufacturers have not entered the foreign fields until recent years, because the American entry into the foreign market dates back many years. The companies whose products are sold in the mining, industrial or other fields and who make oil field equipment, have for years exploited all of the foreign marts and today are reaping a good oil field equipment export business. But single handed they cannot check the invasion of foreign manufacturers. It is imperative that many American manufacturers enter the export business, as collectively they can more quickly educate the foreign laborer in the handling of American tools, and break down the wall of preference for foreign products. The export business will prove the salvation for many oil field equipment manufacturers in the future and will add greatly to prosperity of the manufacturing division of the oil industry, as it balances the loss of sales from our decreasing local and national markets.

Hubert Allen, president of Alco Oil Tool Company, Compton, California, accompanied by F. J. Perry, connected with the same company, arrived in Los Angeles, April 29 in his 16-cylinder Cadillac, setting up a record of 31 hours driving time from Oklahoma City to Los Angeles. They made the trip from El Paso to Los Angeles in 17 hours driving time. Mr. Allen ordered a large addition to his company's plant at Oklahoma City while in that state and has ordered additional machinery to assist in taking care of the increased business in that area. Mr. Allen also supervised the redesigning of the Alco bit to better suit "digging" conditions at Oklahoma City.



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by

PHELPS AND LAKE

The reception which the petroleum industry tendered the first edition of PETROLEUM ENGINEERING proved the necessity for a complete handbook for oil field operators. This handbook has been completely revised and enlarged so that the second edition now covers the newest producing methods including gas lift theory and operation. Many additional charts for compression, oil and gas flow, and other gas lift problems are included for the simplification of the computations involved. Additional alignment charts for rapid calculations without involved mathematics bring the total up to sixty-five, covering dip and strike computations, capacities of tanks and casings, oil gravity corrections, gas volume, density, and compression problems, flow of gas, oil and water in pipes, viscosity relations, collapsing and bursting pressure of pipe, and conversion charts for all units. The mathematical section including, as it does, principles and tables of algebra, trigonometry, analytical geometry, calculus, and logarithms, is identical with similar sections of standard handbooks used in other branches of engineering. General and Petroleum Geology, Operating Technology and Economics are completely covered in text and tables. This complete handbook of 637 pages, well illustrated and indexed, attractively bound with flexible fabricoid binding and gilt edges, is priced at $5.00.

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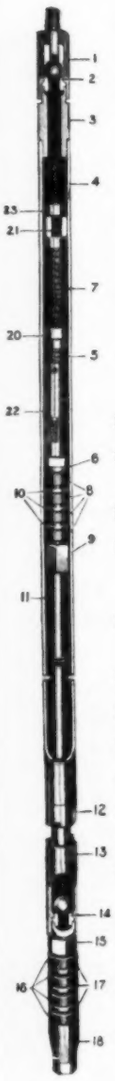
The Inside Picture



1—Steel Upper Crown.
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3—Steel Upper Tube Connection or Seat Frame.
4—Seamless Steel Outer Tube.
5—Steel Spring.
6—Steel Cup Nut.
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8—Vulcanized Cups.
9—4-Cup Steel Plunger Valve Body.
10—Steel Cup Rings.
11—Steel Plunger or Inner Tube.
12—Steel Lower Bushing.
13—Steel Closed Crown Tapped for Plunger Tube.
14—Steelex Ball and Seat.
15—Steel Valve Body.
16—Leather Cups.
17—Steel Cup Rings.
18—Steel Anchor Bottom.
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A complete unit, installed and removed with sucker rods — a labor saver. The cut away sections show the simplicity in design, and sturdy construction. The Liner Working Barrel for you and your pumping problems.

ASK YOUR DEALER

The Chas. N. Hough Manufacturing Co.

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Squeaks from the Bull Wheel

Colored Doctor—Well, Ah's knocked de fever outen yo' husband.

Mandy—Den he's gwine to get well?

Doctor—Not a chance; but yo' has de satisfaction o' knowin' he died cured.

St. Peter—And here is your golden harp.

Newly Arrived—How much is the first payment?

Wife (at busy crossing)—Now remember, Herbert, the brake is on the left—or is it the right—but don't——.

Henpecked Husband—For heaven's sake stop chattering. Your job is to smile at the policeman.

She: "I guess you played around with all the French girls while you were in Paris."

He: "No, not all of them. I was only there for two weeks."

"I'se berry sorry, Deacon Johnsing, to see you comin' outa dat bootlegger's house."

"Cain't help it, Sister Goldbug. I'se gotta go home once in a while."

Pamela: "Isn't Roger a naughty dog, mummy? He ate my doll's slipper."

Mother: "Yes, darling, he ought to be punished!"

Pamela: "I did punis' him. I went stwaight to the kennel an' dwank his milk."

A man and his wife were having tea in a fashionable restaurant.

"Shall we dance, dear?" asked the husband, rising from his chair.

"That wasn't the orchestra playing," replied his wife. "The waiter dropped a tray of china."

A traveling salesman found himself in a village hotel dining room when a heavy downpour of rain set in. Addressing the waitress, he remarked: "It looks like the Flood."

"Like what?" the girl inquired.

"Like the Flood. You've read of the Flood and how the ark landed on Mount Ararat, haven't you?"

"No, sir. I haven't seen a newspaper for three days," she confessed.

Henry Peck—Do you think you can make a good portrait of my wife?

Artist Schram—My friend, I can make it so lifelike you'll jump every time you see it.

Old Lady: Where did you get all those nickels, sonnie?

Sonnie: Down at the church.

Old Lady: Did you steal them, you naughty boy?

Sonnie: Oh, no; the minister said that this money is all for the heathens. Me and pa is atheists, so I took a handful.

Cohen and his family sat down to dinner on Sunday. To his three boys Cohen said: "Now children, which of you would vant it a nickel instead of meat for dinner?"

Each of the three decided in favor of the cash settlement, so Mrs. Cohen put the meat away. Then she brought in the pie and put it on the table.

"Now my children," inquired Cohen, "how many of you vant a nickel's worth of pie?"

"You are willing to support the Constitution, aren't you?" asked the census lady.

"Naw," replied the Italian with shrugs and guestures. "I gotta wife and six keed now."

Grocer (to small customer): Willie would you like to have an apple?

Willie: No, sir. I'm afraid to eat 'em.

Grocer: Why?

Willie: Cause my grandfather died of applelexy.

"About what time does the sun set in winter?" queried the teacher of the class.

The smallest boy answered: "When our hens go to roost."

A Lancashire man, who was a great rationalizer, fell ill. His messenger was seen running down the street in a great hurry, and on being asked what was the matter, replied: "Mr. So-and-So is ill."

"Then I suppose you are running for the doctor?"

"No," said the man, "we do not run for the doctor. We cut out the middleman. I am going for the undertaker."

What did the landlady do when she found that you had left the light burning for three days?

She turned us both out.

"Can you tell me," asked the judge, addressing Enrico Ufuzzi, under examination as to the qualifications for citizenship, "the difference between the powers and prerogatives of the king of England and those of the President of the United States?"

"Yezzir," spoke up Ufuzzi, promptly. "King, he got a steady job."

A woman hired a taxicab. The door of the cab was hardly closed before the engine started with a jerk, and the cab began to race madly along, narrowly missing lamp posts, tram cars, policemen, etc. Becoming frightened, the woman remonstrated with the chauffeur.

"Please be careful. This is the first time I ever rode in a taxi."

The chauffeur reassured the passenger as follows: "That's all right, ma'am. This is the first time I ever drove one."

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Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

INDEX TO ADVERTISERS

Acme Fishing Tool Company .....
Ajax Iron Works .....
Alco Oil Tool Company .....
Allen-Oliver Company .....
Allis-Chalmers Manufacturing Company
Alisteel Products Company .....
Alten's Foundry & Machine Works .. 6
American Association of Petroleum Geologists .....
Aluminum Company of America ....
American Development Company 100
American Hammered Piston Ring Co.
American Iron & Machine Works ....
American Meter Company .....
American Roller Bearing Company....
American Steel Works .....
American Steel & Wire Company ....
American Telegraph & Telephone Co.
American Well Works 110
B. K. Appleman 110
Art Table Company 100
Ash Grove Lime & Portland Cement Co.
Athey Truss Wheel Company 13
Axelson Manufacturing Company ....

Baash-Ross Tool Company .....
Badgett Steam Lubricator Company..106
Baldwin-Duckworth Chain Corporation
Baker Oil Tools Incorporated .....
William S. Barnickel & Company ....
Barrett Company .....
Bartlett Hayward Company .....
Beaumont Iron Works .....
Beebe Brothers .....
Bessemer Gas Engine Company .....
Bethlehem Steel Company 102
Black, Sivalls & Bryson .....Insert
Blackor Company .....
Borden Company .....
Braden Steel & Winch Company .....
The Brewster Company .....
Bridgeport Machine Company 10-11
Broderick & Bascom Rope Company ..
Broderick & Calvert .....
Brown-Strauss Corporation .....
Brust Tool Manufacturing Company ..
Buckeye Traction Ditcher Company ..
Burns Tool Company 91
Butler Manufacturing Company .....
Byron Jackson Company 4

Cameron Iron Works .....
Caterpillar Tractor Company .....
Central Alloy Steel Corporation .....
Chain Belt Company .....
Chicago Bridge & Iron Works .....
Chicago Pneumatic Tool Company ..
Clark Brothers Company 17
Climax Engineering Company .....
Coastal Oil Finding Company 100
Columbian Steel Tank Company .....
Continental Pump Company .....
Continental Supply Company 9
Fred E. Cooper 81
Cooper-Bessemer Corporation .....
Corona Silica Company .....
Cyclone Fence Company .....

Darling Valve Manufacturing Co..... 59
E. M. Dart Manufacturing Company..110
Diamond Drill Carbon Company ....
Doheny-Stone Drill Company .....
Donovan Boiler Works .....
Drane-Humphrey Company .....
Dresser & Gorton, Inc. .....
S. R. Dresser Manufacturing Company
The Drillometer Company .....
E. I. Du Pont de Nemours & Co. ....

Easton Car & Construction Company
Eason-Therolf Tool Company .....
Economy Pump & Oil Tool Company
E. H. Edwards Company 97
Electric Controller Manufacturing Co.
Elliott Core Drilling Company 73
Emsco Derrick & Equipment Company
Exchange Banks of Tulsa .....
Expert Mechanic Shop .....

Fenwick-Reddaway Manufacturing Co.
First National Bank, Houston .....
Fluid Packed Pump Company .....
Fort Worth Laboratories 100
Franklin-Valveless Engine Company .. 5
Frick-Reid Supply Corporation .....

Gardner-Denver Company .....
Gaso Pump & Burner Manufacturing Company 3
Gates Rubber Company .....
Gebruder Haff .....
General Electric Company .....
General Paint Corporation..Second Cover
L. H. Gilmer Company 105
H. P. Gott Manufacturing Company.. 92
B. F. Goodrich Rubber Company ....
Grant Oil Tool Company .....
Grasselli Chemical Company .....
Gray Tool Company .....
Greene, Tweed & Company .....
Guiberson Corporation .....Third Cover
Gulf Refining Company 113
Gulf States Utilities Company 37

Halliburton Oil Well Cementing Co... 38
Hanlon-Waters, Inc. .....
Happy Belting Company .....
Hardway & Catney 100
Haynes Stellite Company .....
Harrisburg Pipe & Pipe Bending Co.
Hazard Wire Rope Company .....
C. M. Heeter Sons & Company ....
Hercules Motors Corporation 8
Hercules Supply Company .....
Hercules Tool Company .....
Heydrick Mapping Company 100
Hill, Hubbell & Company ..Second Cover
Hinderliter Tool Company .....
Hirsch, Brown & Susman 100
The Charles N. Hough Manufacturing Company 112
Houston Engineers .....
Houston National Bank .....
Hughes Tool Company ....Fourth Cover
Humble Oil & Refining Company ....
Hyatt Roller Bearing Company .....

Ingersoll-Rand Company 83
International Derrick & Equipment Co. 47
International Harvester Company.....
International Supply Company .....

Byron Jackson Company 4
Jarecki Manufacturing Company ....
Jensen Brothers Manufacturing Co. .. 90
Jones & Laughlin Steel Corporation ..
Johnson Formation Testing Corp. ....

Kertotest Manufacturing Company ..
Kirk-Morrow Iron Works Company.. 75
Kontol Company .....

Landis Machine Company .....
Larkin Company .....
Layne & Bowler Company 89
A. Leschen & Sons Rope Company..
Lincoln Electric Company .....
Linde Air Products Company .....
Link Belt Company .....
Lucey Products Corporation 85
Lufkin Foundry & Machine Company

MacClatchie Manufacturing Company
Maintenance Engineering Corporation 92
McCollum Exploration Company 100
D. S. Mair Machinery Corporation.... 92
J. H. McEvoy & Company .....
Majestic Hotel 100
Maloney Tank Manufacturing Co. 87
Marchant Calculating Machine Co. ...
Martin-Decker Corporation 101
Martin Wagon Company .....
Merchant-Thayer & Company 100
Metric Metal Works .....
Mills Alloy, Inc. .....
Mills Iron Works .....
Miller Combination Bailer & Pump Co.
Miller Sand Pump Company .....
Mine Safety Appliance Company ....
Robert J. Miller Company .....
Lee C. Moore & Company ..Front Cover
I. P. Morris & DeLaVergne, Inc. ....
Murray Tool & Supply Company ....

National Petroleum Engineering Co... 90
National Supply Companies 16
National Tank Company .....
National Tool & Metals, Inc. .....
National Transit Pump & Machine Co.
National Tube Company .....
Naylor Pipe Company 99
New Jersey Asbestos Company .....
Norvell-Wilder Supply Company .....

O. C. S. Manufacturing Company ....
Oakite Products, Inc. .....
Oklahoma Contracting Company .....
O'Brien Steel Construction Company..
Oil Well Supply Company 20
Oil Well Improvement Company ...
Oster Manufacturing Company .....
Oxweld Acetylene Company .....

Page Steel & Wire Company .....
Parkersburg Machine Company .....
Parkersburg Rig & Reel Company 15
Patterson-Ballagh Corporation 77
Pattin Brothers Company .....
Petroleum Chemical Company 100
Petroleum Equipment Company .....
Petroleum Rectifying Company 35
Pittsburgh-Des Moines Steel Company
Pittsburgh Equitable Meter Company
Pittsburgh Screw & Bolt Corporation..
Pittsburgh Steel Products Company.. 95
Pittsburgh Valve Foundry & Construction Company 12
Pratt & Whitney Company .....

Quasi-Arc, Inc. .....

J. P. Ratigan .....
Reed Roller Bit Company.....
Reading Iron Company .....
Regan Forge & Engineering Company. 69
Joseph Reid Gas Engine Company....
Republic Supply Company 109
Republic Steel Corporation .....
Resistcor Engineering Corporation....
Rollway Bearing Company .....

Second National Bank .....
J. E. Shaffer Company .....
Shaffer Tool Works .....
Sheldon Machinery Company 54-55
Sinclair Refining Company .....
S-K-F Industries .....
A. O. Smith Corporation .....
E. M. Smith Company 18
H. C. Smith Manufacturing Company.
Howard Smith Company .....
South Chester Tube Company .....
Southern Engine & Pump Company...
Southern Pacific Lines .....
Spang & Company .....
Spang, Chalfant & Company .....
Specialty Oil Tool Company .....
Sperry-Sun Well Surveying Company.. 79
Springfield Wagon Company .....
Eugene C. Stacy .....
Star Drilling Machine Company.....
George Steiner .....
Jesse R. Stone 100
Stoody Company .....
Sullivan Machinery Company .....

Technical Products, Inc. .....
Templeton, Kenley & Company .....
Texas Creosoting Company .....
Texas Cyclone Fence Company.....
Texas Electric Steel Casting Company
Texas Iron Works 87
Texas Power & Light Company .....
The Thrift Corporation .....
The Timken Roller Bearing Company.. 43
The Titusville Iron Works Company... 14
Trimont Manufacturing Company .....
Truscon Steel Company .....
Tyler Tube & Pipe Company.....106

Union Carbide & Carbon Corporation.
Union Wire Rope Company.....
United Gas Company .....
United Tractor Equipment Corporation
Universal Engineering Company .....

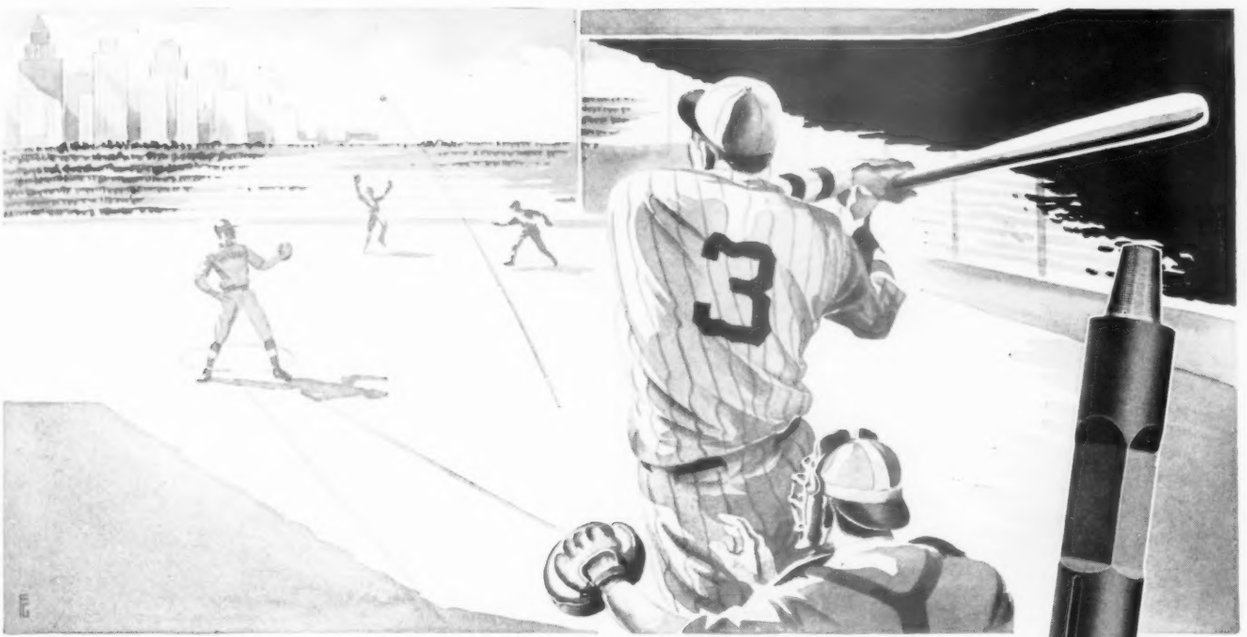
Vez Company .....
Victaulic Company of America.....
Victor Balata & Textile Belting Co.... 93

Wagner Electric Corporation .....
Waukesha Motor Company 63
C. W. Webster 100
Westcott Valve Company .....
Westinghouse Electric & Manufacturing Company .....
West Texas Utilities Company .....
Wickwire Spencer Steel Company.....
Wico Electric Company .....
Williamsport Wire Rope Company....
J. H. Williams & Co..... 7
Wilson Supply Company .....
W-K-M Company .....
T. T. Word Supply Company.....
The Wright Machine Company.....
Wright Manufacturing Company .....
Wyatt Metal & Boiler Works.....
Wiemann-Kemmerer-Wright, Inc. ....

Yale & Towne Manufacturing Co.....
Young Engine Corporation .....

Every precaution has been taken to insure accuracy in listings in this Index to Advertisers, but last minute changes may result in omissions or erroneous listings for which we ask your indulgence. This index is for the convenience of readers and we do not assume liability for improper listings

THE WORLD'S MIGHTIEST BLOWS



EXEMPLIFY THE
GUIBERSON UNDERREAMER

THE RESOUNDING SMACK OF A HOME RUN CLOUT tells a story of drive and power delivered in a smashing impact with the ball. The hitter who keeps it up every day of the season is a super-man in balldom.

THE POUNDING BLOWS OF THE GUIBERSON UNDERREAMER tell a story of mighty strokes and a mighty tool to stand it. The Guiberson Underreamer is built to stand a longer and faster stroke day after day without developing any of the characteristic underreamer weaknesses. Its ability to do so has won it the title of the "The World's Strongest Underreamer."

Head and tongue are forged from a solid steel billet. Tongue being one piece with head, insides postively cannot pull out. Three times more downthrust bearing surface delivers a harder blow and withstands the jar. Cutters taper into the body with dove-tail fit, secured by both bolt and mandrel. Oversize and may be dressed many times on patented dressing form. To do the "home run" style of underreaming, use the Guiberson Underreamer.

9

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